Access DB# 146756

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: JOHN CHU Examiner #: 68314 Date: 3-4-05
Art Unit: 1752 Phone Number 30 272-1329 Serial Number: 10/653,242
Mail Box and Bldg/Room Location: 9051 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

_____

Earliest Priority Filing Date: _____

For Sequence Searches Only *Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

PLEASE SEE ATTACHED.

****

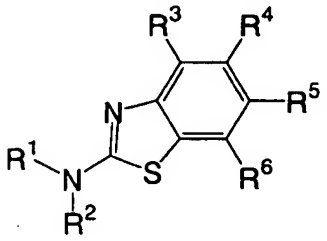
STAFF USE ONLY	**Type of Search**		**Vendors and cost where applicable**	
Searcher: EG	NA Sequence (#)		STN	
Searcher Phone #:	AA Sequence (#)		Dialog	
Searcher Location:	Structure (#)		Questel/Orbit	
Date Searcher Picked Up:	Bibliographic		Dr.Link	
Date Completed: 3-10-05	Litigation		Lexis/Nexis	
Searcher Prep & Review Time:	Fulltext		Sequence Systems	
Clerical Prep Time:	Patent Family		WWW/Internet	
Online Time:	Other		Other (specify)	

PTO-1590 (8-01)

WHAT IS CLAIMED IS:

1. A diazonium salt represented by the following general formula (1):

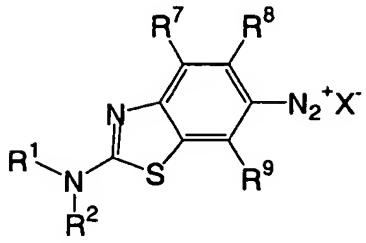
General formula (1)



wherein R^1 and R^2 each independently represents an alkyl group, an aryl group, an acyl group, an alkoxycarbonyl group or a carbamoyl group, and R^1 and R^2 may be linked each other to form a ring; and R^3, R^4, R^5 and R^6 each independently represents a hydrogen atom, a hydroxyl group, a halogen atom, an alkyl group, an aryl group, an alkoxy group, an aryloxy group, an alkylthio group, an arylthio group, an alkylsulfonyl group, an arylsulfonyl group or a diazonio group, and at least one of R^3, R^4, R^5 and R^6 represents the diazonio group.

2. The diazonium salt according to claim 1, and represented by the following general formula (2):

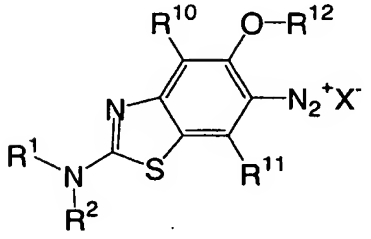
General formula (2)



wherein R^1 and R^2 each independently represents an alkyl group, an aryl group, an acyl group, an alkoxycarbonyl group or a carbamoyl group, and R^1 and R^2 may be linked each other to form a ring; R^7, R^8 and R^9 each independently represents a hydrogen atom, a hydroxyl group, a halogen atom, an alkyl group, an aryl group, an alkoxy group, an aryloxy group, an alkylthio group, an arylthio group, an alkylsulfonyl group or an arylsulfonyl group; and X^- represents an anion.

3. The diazonium salt according to claim 1, and represented by the following general formula (3):

General formula (3)

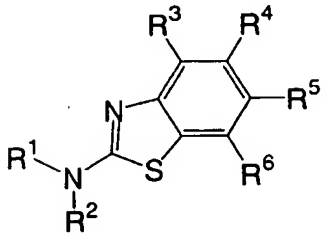


wherein R^1 and R^2 each independently represents an alkyl group, an aryl group, an acyl group, an alkoxycarbonyl

group or a carbamoyl group, and R^1 and R^2 may be linked each other to form a ring; R^{10} and R^{11} each independently represents a hydrogen atom, a halogen atom, an alkyl group, an aryl group, an alkoxy group, an aryloxy group, an alkylthio group, an arylthio group, an alkylsulfonyl group or an arylsulfonyl group; R^{12} represents a hydrogen atom, an alkyl group or an aryl group; and X^- represents an anion.

4. A thermal recording material comprising, on a support, a thermal recording layer containing a coupler and a diazonium salt represented by the following general formula (1):

General formula (1)

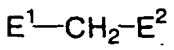


wherein R^1 and R^2 each independently represents an alkyl group, an aryl group, an acyl group, an alkoxycarbonyl group or a carbamoyl group, and R^1 and R^2 may be linked each other to form a ring; and R^3, R^4, R^5 and R^6 each independently represents a hydrogen atom, a hydroxyl group, a halogen atom, an alkyl group, an aryl group, an alkoxy group, an aryloxy group, an alkylthio group, an arylthio

group, an alkylsulfonyl group, an arylsulfonyl group or a diazonio group, and at least one of R^3, R^4, R^5 and R^6 represents the diazonio group.

5. The thermal recording material according to claim 4, wherein the coupler is a compound represented by the following general formula (4) or a tautomer thereof:

General formula (4)



wherein E^1 and E^2 each independently represents an electron withdrawing group, and E^1 and E^2 may be linked each other to form a ring.

6. The thermal recording material according to claim 4, wherein the diazonium salt is encapsuled in microcapsules.

7. The thermal recording material according to claim 6, wherein walls of the microcapsules include at least one of polyurethane and polyurea as a constituent.

8. The thermal recording material according to claim 4, wherein the thermal recording layer includes an organic base.

9. The thermal recording material according to claim 8, wherein the organic base is used in an amount of 0.1 to 30 parts by weigh with respect to 1 part by mass of the diazonium salt.

10. The thermal recording material according to claim 4, wherein the thermal recording layer includes a color forming aid.

11. The thermal recording material according to claim 4, wherein the thermal recording layer includes a free radical generating agent.

12. The thermal recording material according to claim 11, wherein the free radical generating agent is used in an amount of 0.01 to 5 parts by mass with respect to 1 part by mass of the diazonium salt.

13. The thermal recording material according to claim 4, wherein the thermal recording layer includes a vinyl monomer.

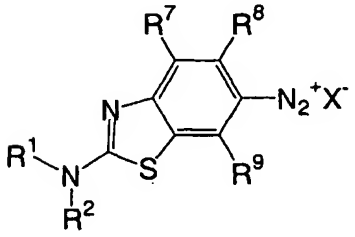
14. The thermal recording material according to claim 13, wherein the vinyl monomer is used in an amount of 0.2 to 20 parts by mass with respect to 1 part by mass of the diazonium salt.

15. The thermal recording material according to claim 4, wherein at least one of a light transmittance control layer and a protective layer is disposed on the thermal recording layer.

16. The thermal recording material according to claim 4, wherein the thermal recording layer includes the diazonium salt represented by the general formula (1) in an amount of 0.02 to 5 g/m^2.

17. The thermal recording material according to claim 4, wherein the diazonium salt is represented by the following general formula (2):

General formula (2)

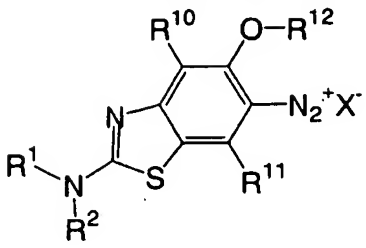


wherein R^1 and R^2 each independently represents an alkyl group, an aryl group, an acyl group, an alkoxycarbonyl group or a carbamoyl group, and R^1 and R^2 may be linked each other to form a ring; R^7, R^8 and R^9 each independently represents a hydrogen atom, a hydroxyl group, a halogen atom, an alkyl group, an aryl group, an alkoxy group, an aryloxy group, an alkylthio group, an arylthio group, an alkylsulfonyl group or an arylsulfonyl group; and X^- represents an anion.

18. The thermal recording material according to claim 17, wherein the thermal recording layer includes the diazonium salt represented by the general formula (2) in an amount of 0.02 to 5 g/m^2.

19. The thermal recording material according to claim 4, wherein the diazonium salt is represented by the following general formula (3):

General formula (3)



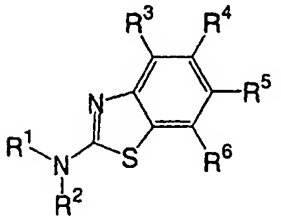
wherein R^1 and R^2 each independently represents an alkyl group, an aryl group, an acyl group, an alkoxycarbonyl group or a carbamoyl group, and R^1 and R^2 may be linked each other to form a ring; R^{10} and R^{11} each independently represents a hydrogen atom, a halogen atom, an alkyl group, an aryl group, an alkoxy group, an aryloxy group, an alkylthio group, an arylthio group, an alkylsulfonyl group or an arylsulfonyl group; R^{12} represents a hydrogen atom, an alkyl group or an aryl group; and X^- represents an anion.

20. A thermal recording material according to claim 19, wherein the thermal recording layer includes the diazonium salt represented by the general formula (3) in an amount of 0.02 to 5 g/m^2.

ABSTRACT

A diazonium salt represented by the following general formula (1) and a thermal recording material using the diazonium salt:

General formula (1)



wherein R^1 and R^2 each independently represents an alkyl group, an aryl group, an acyl group, an alkoxycarbonyl group or a carbamoyl group, and R^1 and R^2 may be linked each other to form a ring; and R^3 to R^6 each independently represents a hydrogen atom, a hydroxyl group, a halogen atom, an alkyl group, an aryl group, an alkoxy group, an aryloxy group, an alkylthio group, an arylthio group, an alkylsulfonyl group, an arylsulfonyl group or a diazonio group, and at least one of R^3, R^4, R^5 and R^6 represents the diazonio group.

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BIBDATASHEET

Bib Data Sheet

CONFIRMATION NO. 4732

SERIAL NUMBER	FILING DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
10/653,242	09/03/2003 RULE	430	1752	Q77007

APPLICANTS

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Toshihide Aoshima, Shizuoka-ken, JAPAN;
Yasuhiro Mitamura, Shizuoka-ken, JAPAN;
Tatsuo Kawabuchi, Shizuoka-ken, JAPAN;

** CONTINUING DATA **********

** FOREIGN APPLICATIONS **********
JAPAN 2002-261318 09/06/2002

IF REQUIRED, FOREIGN FILING LICENSE GRANTED
** 11/22/2003

		STATE OR	SHEETS	TOTAL	INDEPENDENT
Foreign Priority claimed	☐ yes ☐ no	COUNTRY	DRAWING	CLAIMS	CLAIMS
35 USC 119 (a-d) conditions met	☐ yes ☐ no ☐ Met after Allowance	JAPAN	0	20	2
Verified and Acknowledged	Examiner's Signature Initials				

ADDRESS
23373
SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON , DC
20037

TITLE
Diazonium salt and thermal recording material using the same

☐ All Fees

Smith, Teresa (ASRC)

From: Unknown@Unknown.com
Sent: Thursday, March 03, 2005 7:32 PM
To: STIC-EIC1700
Subject: Generic form response

ResponseHeader=Commercial Database Search Request

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MyDate=Thu Mar 3 19:31:54 EST 2005

submitto=STIC-EIC1700@uspto.gov

Name=John Chu

Empno=68314

Phone=2-1329

Artunit=1752

Office=Rem 9d-51

Serialnum=10/653242

PatClass=430/157

Earliest=9/6/02

Format1=paper

Searchtopic=Please search the diazonium salt of formulae (1), (2) and (3)in application 10/653242, claims 1-3 and its use in a thermal recording material, claims 4-20.

Please note that the diazonium salt is best represented by general formula (2) and (3)

which shows the diazonium salt group as N2 + X-

The Patent Publication No. is 2004/0063021 A1.

A previous EIC structure search was done which didn't include the diazonium salt group in the structure.

Thank you!

John Chu

Comments=Working hrs. M-F 9:30 am - 6:00 pm

send=SEND

10/655,242


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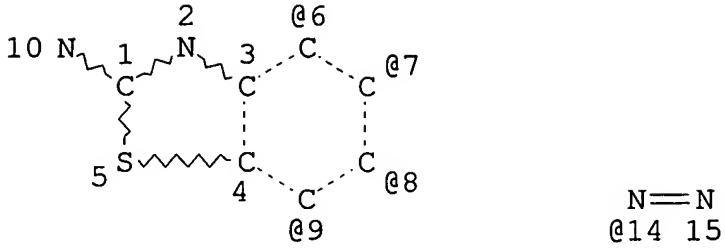

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DEFAULT ECLEVEL IS LIMITED

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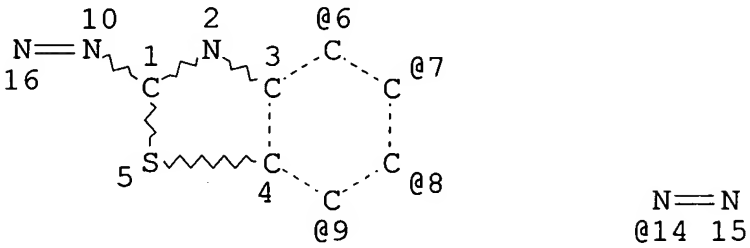

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FILE LAST UPDATED:  01 May 1997 (19970501/UP)


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L8   ANSWER 1 OF 6  CAOLD  COPYRIGHT 2005 ACS on STN
AN   CA53:22970c  CAOLD
TI   metal-contg. polyazo coloring matters derived from benzothiazole
PA   Davies, Robert R.; Pearson, K. W.; Imperial Chemical Industries Ltd.
DT   Patent
     PATENT NO.    KIND          DATE
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PI   GB 811740
IT   103401-18-9 108247-61-6 121969-22-0
IT   103401-18-9 108247-61-6 121969-22-0
RN   103401-18-9  CAOLD
CN   Urea, 1,3-bis[4-hydroxy-7-(p-6-methyl-2-benzothiazolylphenylazo)-2-
     benzothiazolyl]- (6CI)  (CA INDEX NAME)
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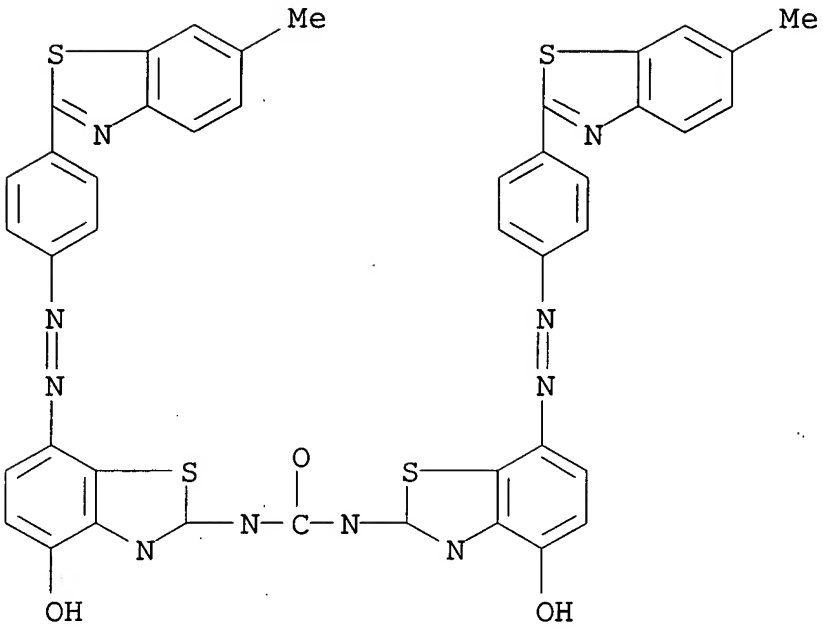

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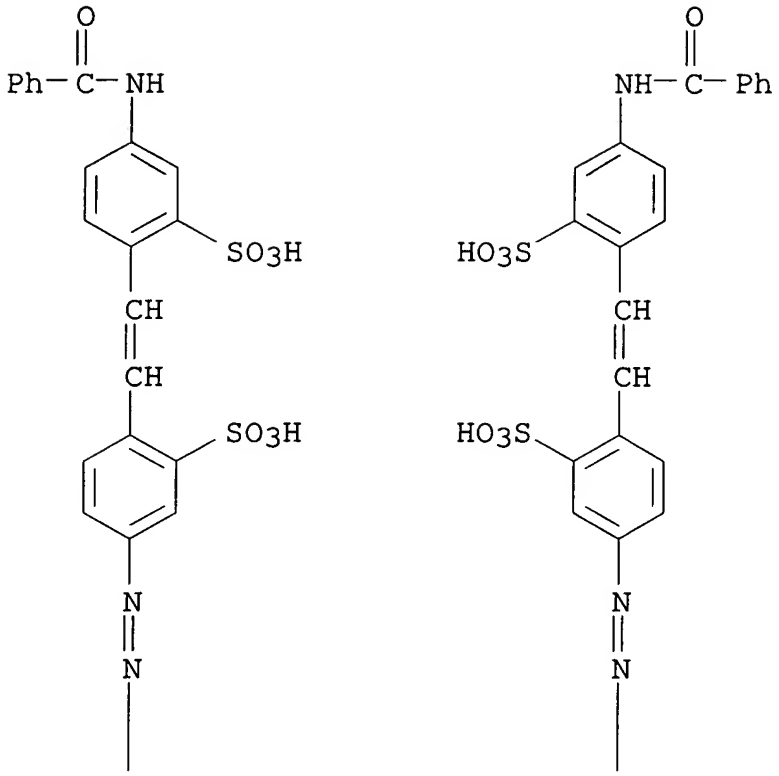
CN 2,2'-Stilbenedisulfonic acid, 4,4''-[ureylenebis[(4-hydroxy-2,7-benzothiazolediyl)azo]]bis[4'-benzamido- (6CI) (CA INDEX NAME)

PAGE 1-A



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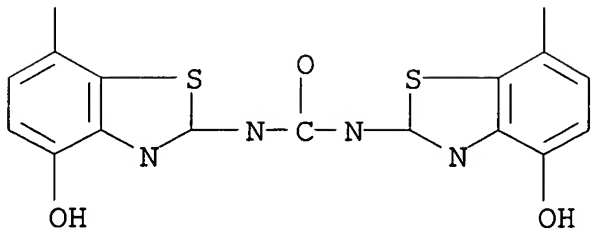

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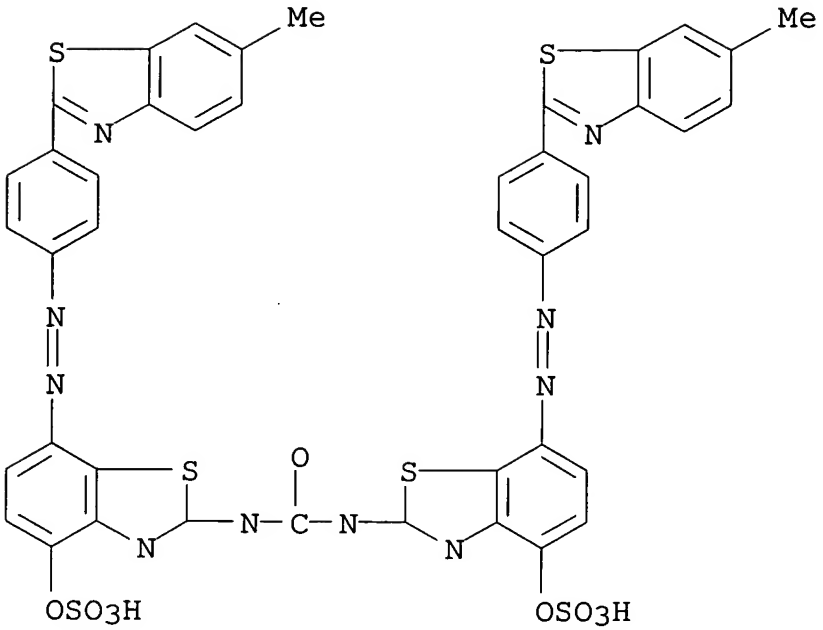
CN Urea, 1,3-bis[4-hydroxy-7-(p-6-methyl-2-benzothiazolylphenylazo)-2-benzothiazolyl]-, bis(H sulfate) (6CI) (CA INDEX NAME)

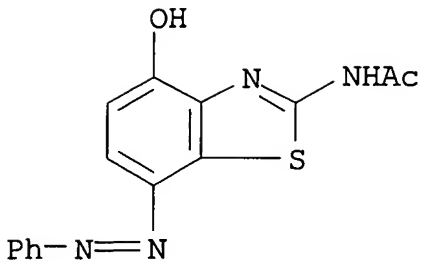


*** FRAGMENT DIAGRAM IS INCOMPLETE ***

L8 ANSWER 2 OF 6 CAOLD COPYRIGHT 2005 ACS on STN
AN CA53:7610f CAOLD
TI acid anthraquinone dyes
AU Hindermann, Peter; Koelliker, H. P.; Trautzl, P.
DT Patent
TI dyes (anthraquinone)
PA Geigy, J. R., A.-G.
DT Patent

PATENT NO.	KIND	DATE
US 2870173		1959
DE 1070313		

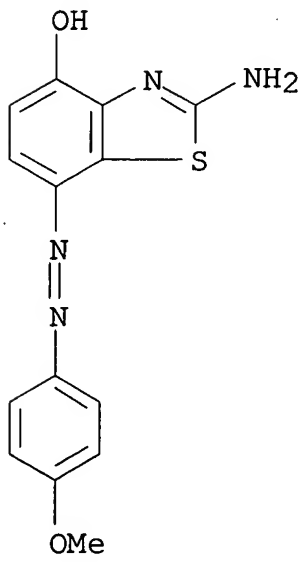
IT **100881-44-5** 102470-01-9 103269-31-4 103329-05-1 103329-41-5
103329-42-6 119570-95-5 119640-94-7 119853-53-1 119882-00-7
124142-14-9
IT **100881-44-5**
RN 100881-44-5 CAOLD
CN 4-Benzothiazolol, 2-acetamido-7-phenylazo- (6CI) (CA INDEX NAME)



L8 ANSWER 3 OF 6 CAOLD COPYRIGHT 2005 ACS on STN
AN CA53:7610d CAOLD
TI dyes (metalizable monoazo) of the phenylazo-4-hydroxybenzothiazole series
PA Imperial Chemical Industries Ltd.
DT Patent

PATENT NO.	KIND	DATE
GB 801900		

IT 100541-53-5 **100621-25-8** 101094-93-3 **101352-08-3** 106883-40-3
IT **100621-25-8 101352-08-3**
RN 100621-25-8 CAOLD
CN 4-Benzothiazolol, 2-amino-7-(p-methoxyphenylazo)- (6CI) (CA INDEX NAME)



RN 101352-08-3 CAOLD
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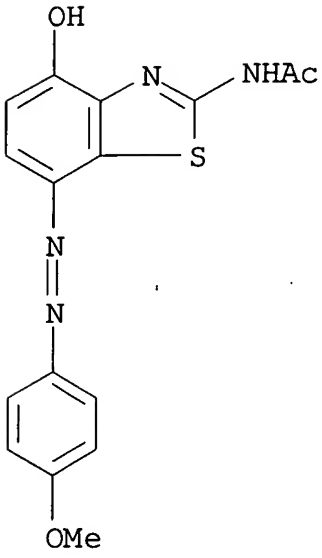
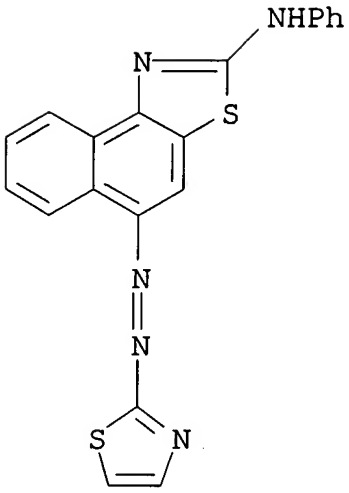


L8 ANSWER 4 OF 6 CAOLD COPYRIGHT 2005 ACS on STN
AN CA51:7015h CAOLD
TI dyes of anthracene series
AU Nagai, Yoshio
TI dyes of phenanthrene series
AU Kato, Shimpachiro
TI dyes of pyrene and other polynuclear hydrocarbons
AU Abe, Yoshito; Nagai, Y.
IT **21431-50-5**
IT **21431-50-5**
RN 21431-50-5 CAOLD
CN Naphtho[1,2-d]thiazole, 2-anilino-5-(2-thiazolylazo)- (6CI, 8CI) (CA INDEX NAME)



L8 ANSWER 5 OF 6 CAOLD COPYRIGHT 2005 ACS on STN
AN CA51:7014g CAOLD
TI fire extinguisher
AU Biginelli, Oreste F. A.
DT Patent

PATENT NO.	KIND	DATE
FR 1004051		

IT 86-95-3 136-95-8 1203-55-0 1747-60-0 2536-91-6
2734-52-3 6285-57-0 15864-32-1 16671-89-9 17818-77-8
17818-78-9 17818-79-0 18837-33-7 21431-38-9 21431-41-4
21431-44-7 **21431-46-9** **21431-48-1** 40172-65-4
99971-19-4 101278-96-0 101422-52-0 101445-50-5 101445-52-7
109475-32-3 **109513-70-4** **109723-22-0**
109818-13-5 **112223-60-6** **112866-12-3**
113037-27-7 **113038-39-4** **114947-16-9**
115003-52-6 **115985-21-2** **115985-22-3**
120233-62-7 **124121-81-9** **124121-82-0**
124143-10-8 **124180-38-7** **124180-39-8**
130862-27-0 130987-62-1

IT **21431-46-9** **21431-48-1** **109513-70-4**
109723-22-0 **109818-13-5** **112223-60-6**
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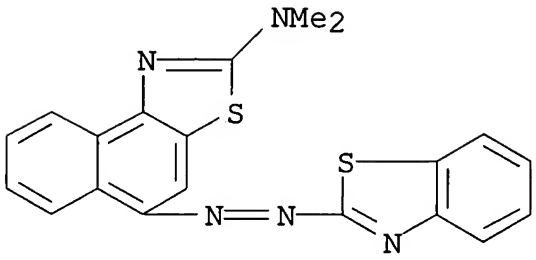
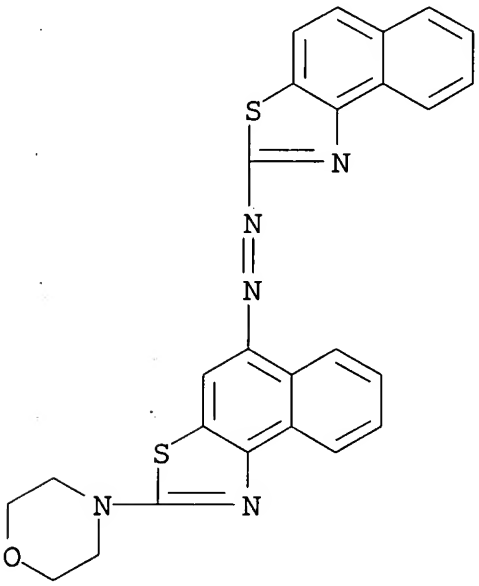
124121-82-0 **124143-10-8** **124180-38-7**
124180-39-8 **130862-27-0**

RN 21431-46-9 CAOLD
CN Naphtho[1,2-d]thiazole, 5-(2-benzothiazolylazo)-2-(dimethylamino)-

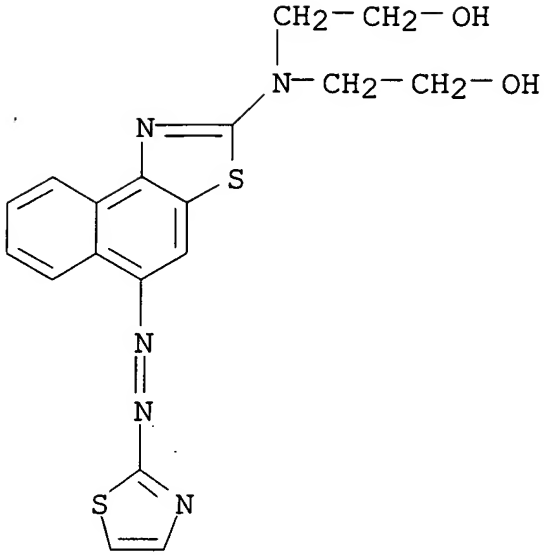
(6CI, 8CI) (CA INDEX NAME)



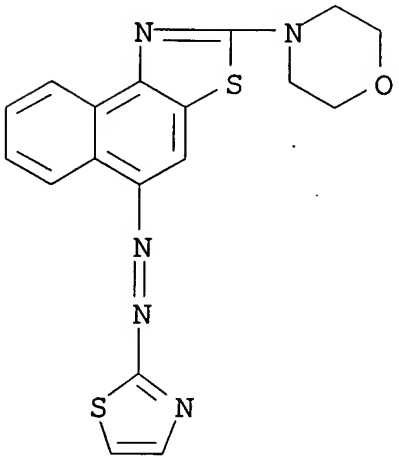
RN 21431-48-1 CAOLD
CN Naphtho[1,2-d]thiazole, 2'-morpholino-2,5'-azobis- (6CI, 8CI) (CA INDEX NAME)



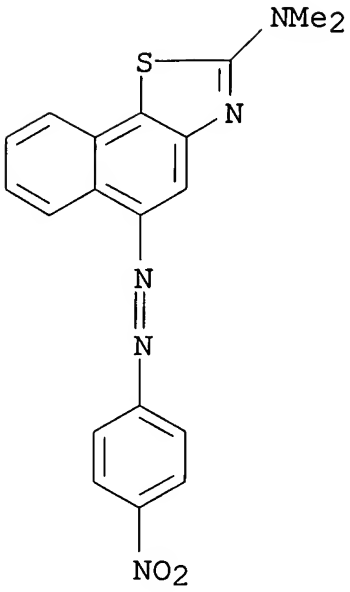
RN 109513-70-4 CAOLD
CN Ethanol, 2,2'-[5-(2-thiazolylazo)naphtho[1,2-d]thiazol-2-ylimino]di- (6CI) (CA INDEX NAME)



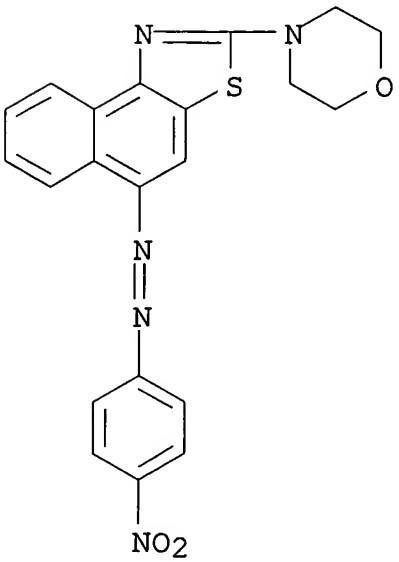
RN 109723-22-0 CAOLD
CN Naphtho[1,2-d]thiazole, 2-morpholino-5-(2-thiazolylazo)- (6CI) (CA INDEX NAME)



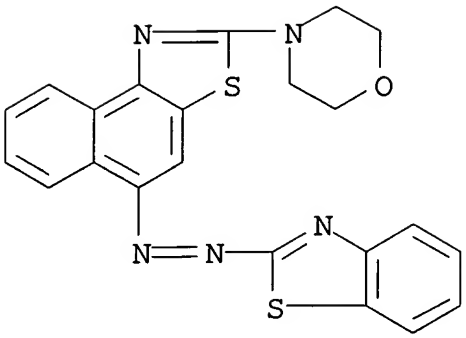
RN 109818-13-5 CAOLD
CN Naphtho[1,2-d]thiazole, 2-dimethylamino-5-(p-nitrophenylazo)- (6CI) (CA INDEX NAME)



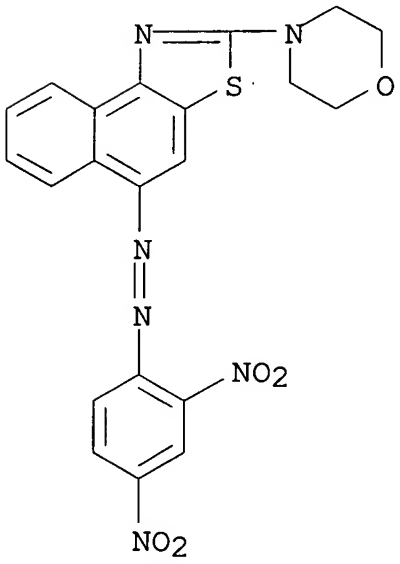
RN 112223-60-6 CAOLD
CN Naphtho[1,2-d]thiazole, 2-morpholino-5-(p-nitrophenylazo)- (6CI) (CA INDEX NAME)



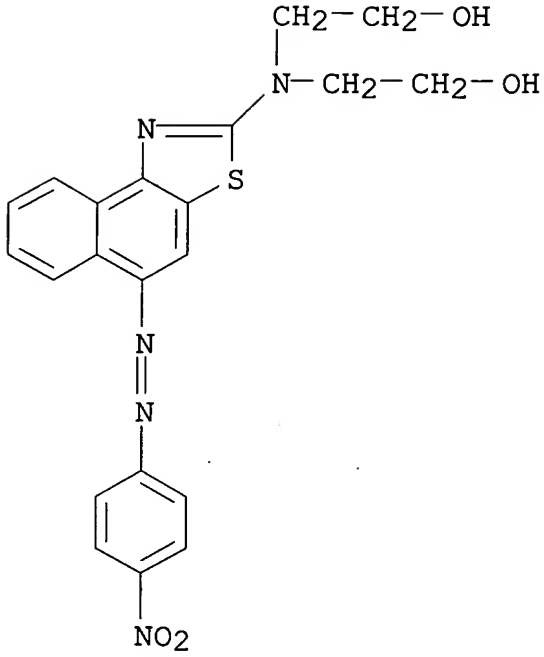
RN 112866-12-3 CAOLD
CN Naphtho[1,2-d]thiazole, 5-(2-benzothiazolylazo)-2-morpholino- (6CI) (CA INDEX NAME)



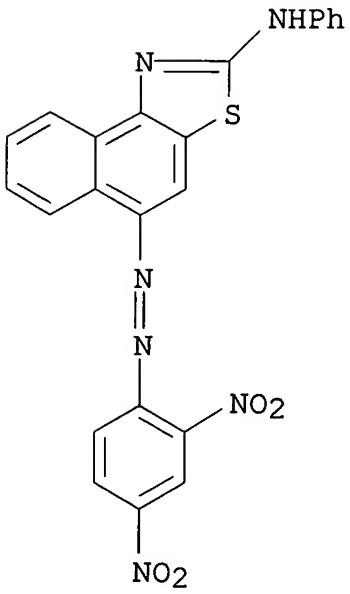
RN 113037-27-7 CAOLD
CN Naphtho[1,2-d]thiazole, 5-(2,4-dinitrophenylazo)-2-morpholino- (6CI) (CA INDEX NAME)



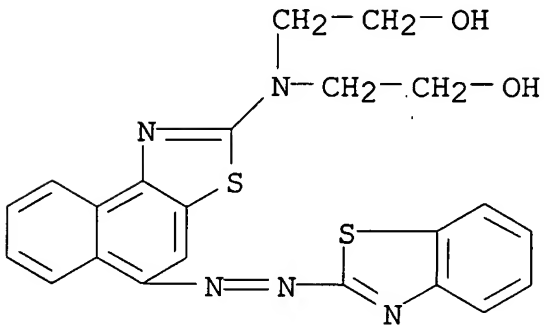
RN 113038-39-4 CAOLD
CN Ethanol, 2,2'-[5-(p-nitrophenylazo)naphtho[1,2-d]thiazo-2-ylimino]di- (6CI) (CA INDEX NAME)



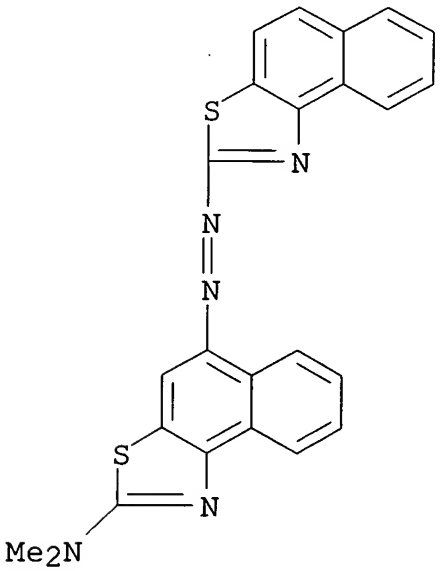
RN 114947-16-9 CAOLD
CN Naphtho[1,2-d]thiazole, 2-anilino-5-(2,4-dinitrophenylazo)- (6CI) (CA INDEX NAME)



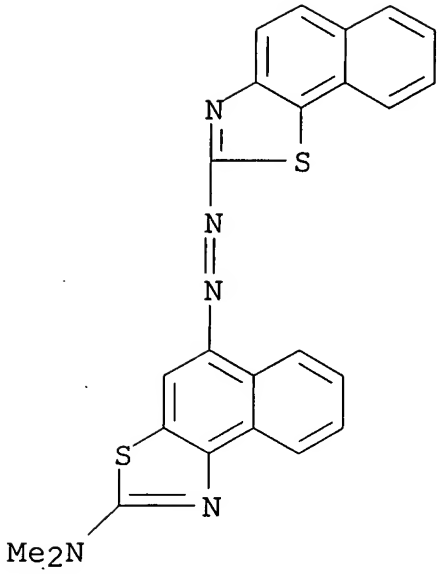
RN 115003-52-6 CAOLD
CN Ethanol, 2,2'-[5-(2-benzothiazolylazo)naphtho[1,2-d]thiazol-2-ylimino]di- (6CI) (CA INDEX NAME)



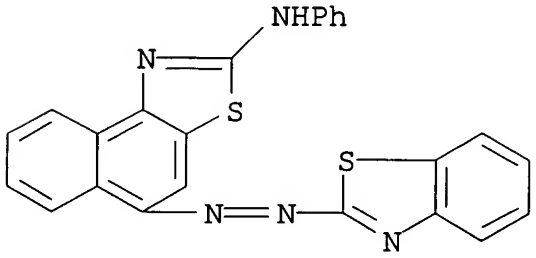
RN 115985-21-2 CAOLD
CN Naphtho[1,2-d]thiazole, 2'-dimethylamino-2,5'-azobis- (6CI) (CA INDEX NAME)



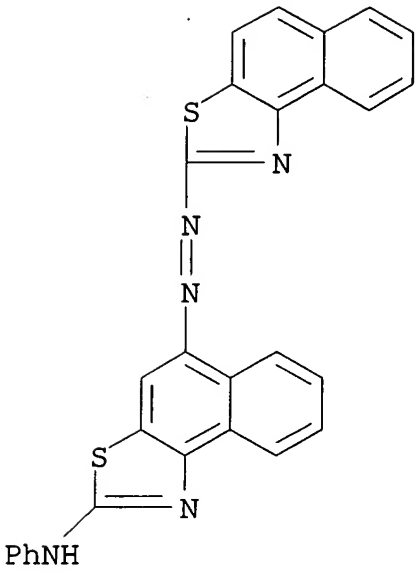
RN 115985-22-3 CAOLD
CN Naphtho[1,2-d]thiazole, 2-dimethylamino-5-naphtho[2,1-d]thiazol-2-ylazo- (6CI) (CA INDEX NAME)



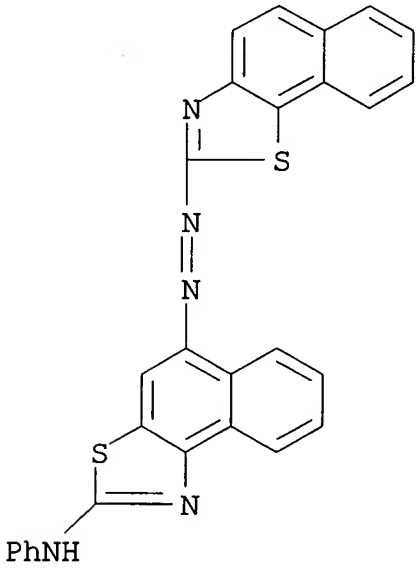
RN 120233-62-7 CAOLD
CN Naphtho[1,2-d]thiazole, 2-anilino-5-(2-benzothiazolylazo)- (6CI) (CA INDEX NAME)



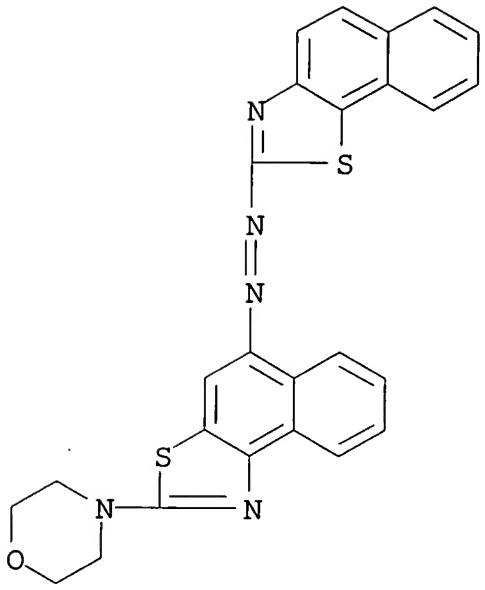
RN 124121-81-9 CAOLD
CN Naphtho[1,2-d]thiazole, 2'-anilino-2,5'-azobis- (6CI) (CA INDEX NAME)



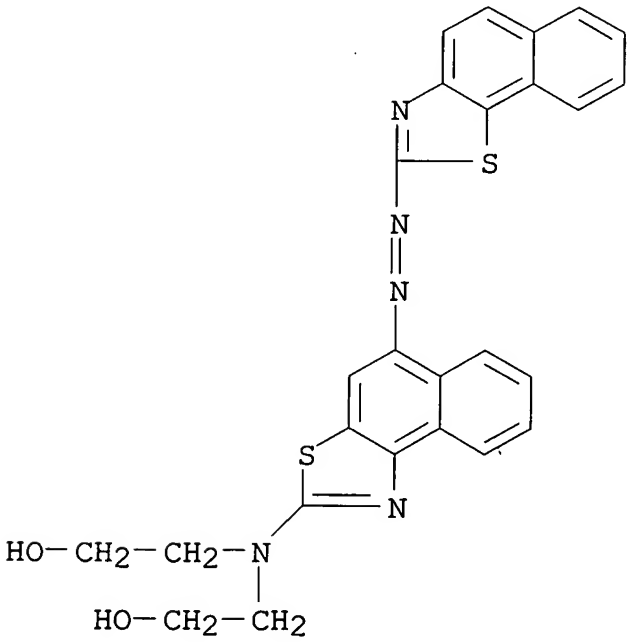
RN 124121-82-0 CAOLD
CN Naphtho[1,2-d]thiazole, 2-anilino-5-naphtho[2,1-d]thiazol-2-ylazo- (6CI) (CA INDEX NAME)



RN 124143-10-8 CAOLD
CN Naphtho[1,2-d]thiazole, 2-morpholino-5-naphtho[2,1-d]thiazol-2-ylazo- (6CI) (CA INDEX NAME)

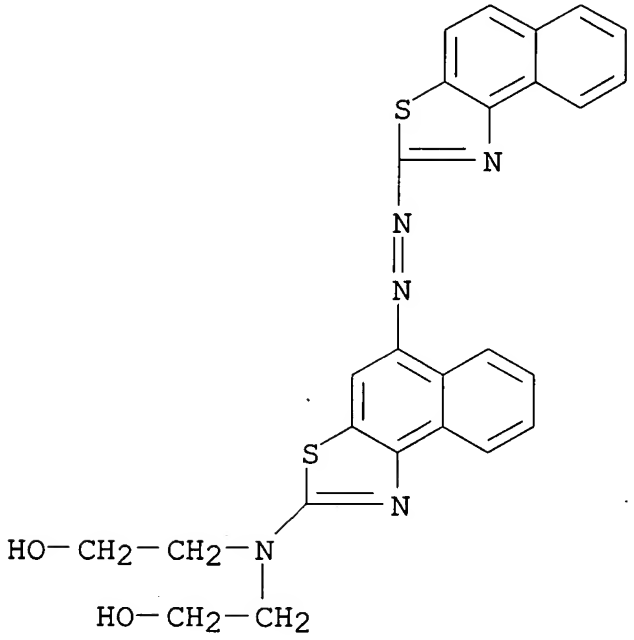


RN 124180-38-7 CAOLD
CN Ethanol, 2,2'-(5-naphtho[2,1-d]thiazol-2-ylazonaphtho[1,2-d]thiazol-2-ylimino)di- (6CI) (CA INDEX NAME)

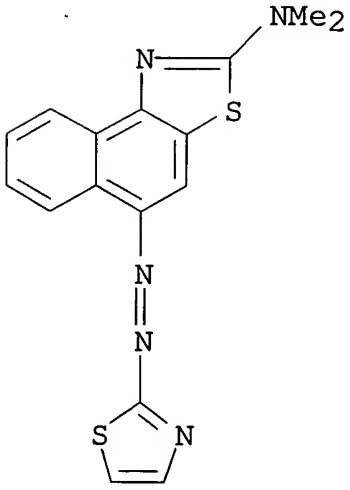


RN 124180-39-8 CAOLD

CN Ethanol, 2,2'-(5-naphtho[1,2-d]thiazol-2-ylazonaphtho[1,2-d]thiazol-2-ylimino)di- (6CI) (CA INDEX NAME)



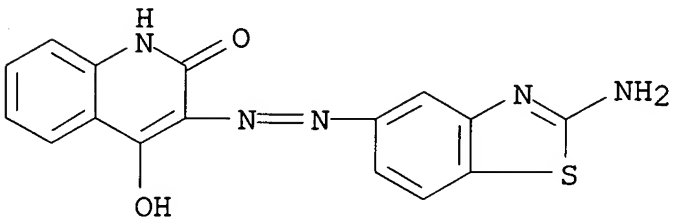
RN 130862-27-0 CAOLD
CN Naphtho[1,2-d]thiazole, 2-dimethylamino-5-(2-thiazolylazo)- (6CI) (CA INDEX NAME)



L8 ANSWER 6 OF 6 CAOLD COPYRIGHT 2005 ACS on STN
AN CA51:6715f CAOLD
TI carbonyloxy steroids
AU Korman, Jerome; Hogg, J. A.
PA Upjohn Co.
DT Patent

PATENT NO.	KIND	DATE
PI US 2774775		1956

IT 1667-98-7 102472-21-9 103161-24-6 **107625-78-5** 111319-10-9 111319-12-1 124202-67-1
IT **107625-78-5**
RN 107625-78-5 CAOLD
CN 2,4-Quinolinediol, 3-(2-amino-5-benzothiazolylazo)- (6CI) (CA INDEX NAME)



=> file zca
FILE 'ZCA' ENTERED AT 13:23:57 ON 10 MAR 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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=> d l9 1-21 cbib abs hitstr hitrn

L9 ANSWER 1 OF 21 ZCA COPYRIGHT 2005 ACS on STN
131:351990 Syntheses and properties of some self-coloring polyesters. Pang, Xiaoyi; Xin, Zhong; Dai, Gance (Polyner Processing Lab., E. China Univ. of Sci. and Techn., Shanghai, Peop. Rep. China). Gaofenzi Cailiao Kexue Yu Gongcheng, 15(4), 44-47 (Chinese) 1999. CODEN: GCKGEI. ISSN: 1000-7555. Publisher: "Gaofenzi Cailiao Kexue Yu Gongcheng" Bianjibu.
AB Self-coloring polyesters were prepd. by polymn. of di-Me terephthalate and ethylene glycol with colorants having -OH, -NH2 groups as the third monomer. The contents of the incorporated

colorant in the polyesters were detd. The intrinsic viscosity and the propagation rate of the polyester polyester decreased with increasing the colorant content. DSC thermograms of the polyesters showed that the m.p. of the self-coloring polyesters was lower than that of PET and there are no obvious glass transitions (Tg). The soly. of colorants was greatly improved as they were incorporated into the chain of polyester. The products were detd. by IR, UV, DSC, and TGA. The effects of temp. on polymn. was discussed.

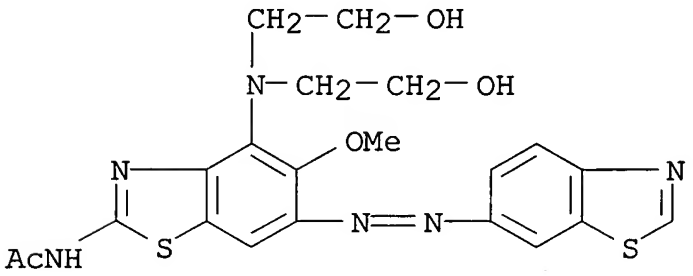
IT **250641-55-5P**, 4'-[N,N-Bis(.beta.-hydroxyethyl)amino]-5'-methoxy-2'-acetamido azobenzothiazole-dimethyl terephthalate-ethylene glycol copolymer
(prepn. and properties of self-coloring polyesters)

RN 250641-55-5 ZCA

CN 1,4-Benzenedicarboxylic acid, dimethyl ester, polymer with N-[6-(6-benzothiazolylazo)-4-[bis(2-hydroxyethyl)amino]-5-methoxy-2-benzothiazolyl]acetamide and 1,2-ethanediol (9CI) (CA INDEX NAME)

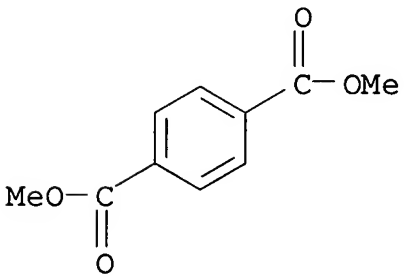
CM 1

CRN 250641-54-4
CMF C21 H22 N6 O4 S2



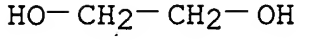
CM 2

CRN 120-61-6
CMF C10 H10 O4



CM 3

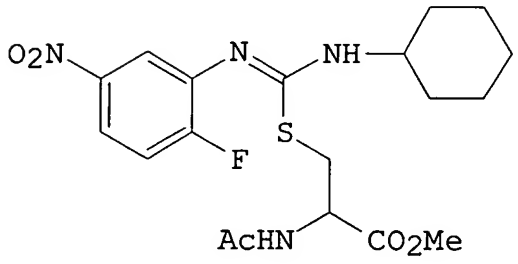
CRN 107-21-1
CMF C2 H6 O2



IT **250641-55-5P**, 4'-[N,N-Bis(.beta.-hydroxyethyl)amino]-5'-methoxy-2'-acetamido azobenzothiazole-dimethyl terephthalate-ethylene glycol copolymer
(prepn. and properties of self-coloring polyesters)

L9 ANSWER 2 OF 21 ZCA COPYRIGHT 2005 ACS on STN
119:49290 N-acetylcysteine methyl ester: an efficient sulfur transfer agent. Gilman, Alex; Spero, Denice M. (Boehringer Ingelheim Pharm. Inc., Ridgefield, CT, 06977, USA). Tetrahedron Letters, 34(11), 1751-2 (English) 1993. CODEN: TELEAY. ISSN: 0040-4039. OTHER SOURCES: CASREACT 119:49290.

GI



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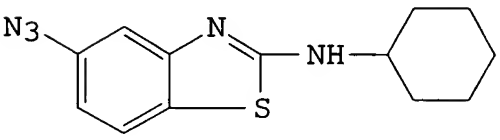


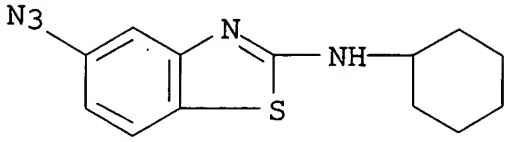
II

AB The sulfur transfer capability of N-acetylcysteine Me ester is illustrated by its addn. to a 2-fluorophenylcarbodiimide to give I which on .beta.-elimination and cyclization in a novel route gave aminobenzothiazoles, e.g. II.

IT **148343-29-7P**
(prepn. of)

RN 148343-29-7 ZCA

CN 2-Benzothiazolamine, 5-azido-N-cyclohexyl- (9CI) (CA INDEX NAME)



IT **148343-29-7P**
(prepn. of)

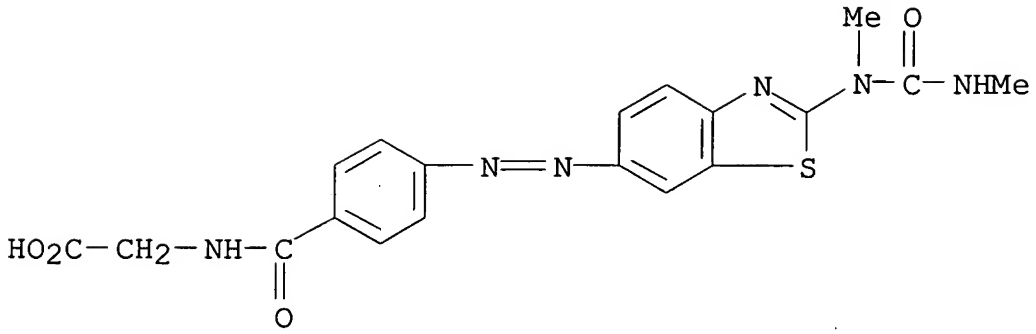
L9 ANSWER 3 OF 21 ZCA COPYRIGHT 2005 ACS on STN
118:74853 Determination of the hapten density of immunoconjugates by matrix-assisted UV laser desorption/ionization mass spectrometry. Wengatz, I.; Schmid, R. D.; Kreissbig, S.; Wittmann, C.; Hock, B.; Ingendoh, A.; Hillenkamp, F. (Abt. Enzymtechnol., GBF-Ges. Biotechnol. Forsch. mbH, Braunschweig, W-3300, Germany). Analytical Letters, 25(11), 1983-97 (English) 1992. CODEN: ANALBP. ISSN: 0003-2719.

AB Information on the hapten densities of immunoconjugates, that is the no. of coupled haptens, is important for the prodn. of antibodies directed towards the resp. hapten, e.g. a pesticide. Matrix-assisted UV laser desorption mass spectrometry (MALDI) provides a sensitive method for the measurement of the mol. wt. of large bioorg. compds. The mass resoln. of approx. 100, currently achievable with this technique in conjunction with a careful centroiding procedure of the peaks, is sufficient for the detn. of the hapten d. Different immunoconjugates and labeled enzymes used in enzyme immunoassays were investigated in order to evaluate the hapten d., as inferred from the measured differences in mass between the conjugated and nonconjugated carrier mol. The pesticides methabenzthiazuron, phenoxybenzoic acid and derivs. of atrazine and pyrethroids were used as haptens. Hepten densities detd. from mass spectra were compared to those based on UV spectra. Values detd. by MALDI were considerably lower than those indicated by the UV spectra. This is most probably due to the fact that MALDI detects only covalently bound haptens whereas haptens bound by adsorption may also contribute to the signal in the UV-spectrum. The consequences of the MALDI results for immunization are discussed.

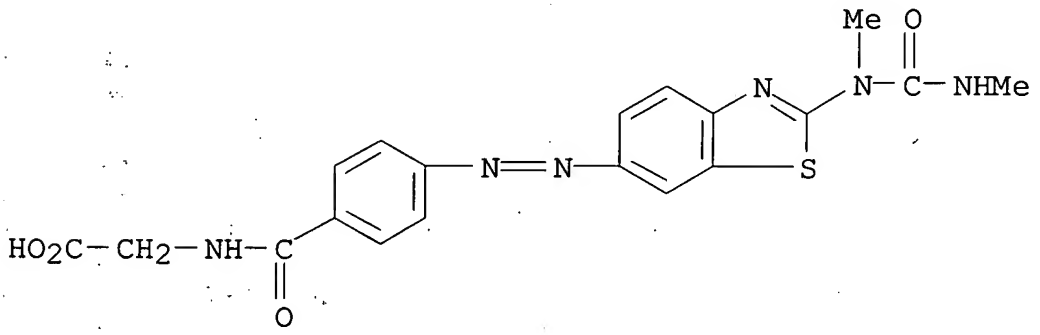
IT **145612-67-5**
(detn. of, in immunoconjugates, by matrix-assisted UV laser desorption/ionization mass spectrometry)

RN 145612-67-5 ZCA

CN Glycine, N-[4-[[2-[methyl[(methylamino)carbonyl]amino]-6-benzothiazolyl]azo]benzoyl]- (9CI) (CA INDEX NAME)

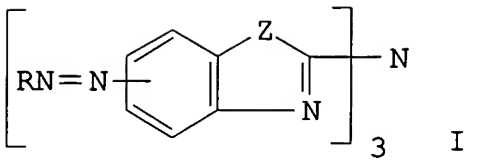


IT **145612-67-5D**, conjugates
(hapten d. of, detn. of, by matrix-assisted UV laser desorption/ionization mass spectrometry)
RN 145612-67-5 ZCA
CN Glycine, N-[4-[[2-[methyl[(methylamino)carbonyl]amino]-6-benzothiazolyl]azo]benzoyl]- (9CI) (CA INDEX NAME)



IT **145612-67-5**
(detn. of, in immunoconjugates, by matrix-assisted UV laser desorption/ionization mass spectrometry)
IT **145612-67-5D**, conjugates
(hapten d. of, detn. of, by matrix-assisted UV laser desorption/ionization mass spectrometry)

L9 ANSWER 4 OF 21 ZCA COPYRIGHT 2005 ACS on STN
113:106391 Electrophotographic photoreceptors using a trisazo pigment as a charge-generating agent. Go, Nobutetsu; Matsumoto, Masakazu (Canon K. K., Japan). Jpn. Kokai Tokkyo Koho JP 01292352 A2 19891124 Heisei, 11 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1988-121942 19880520.
GI



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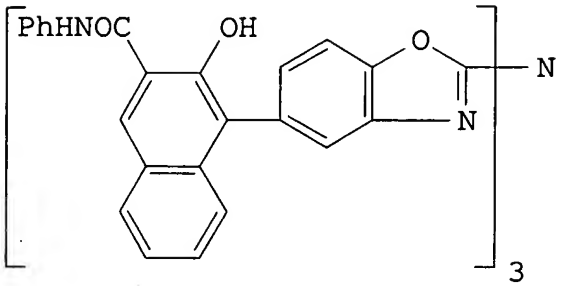


II

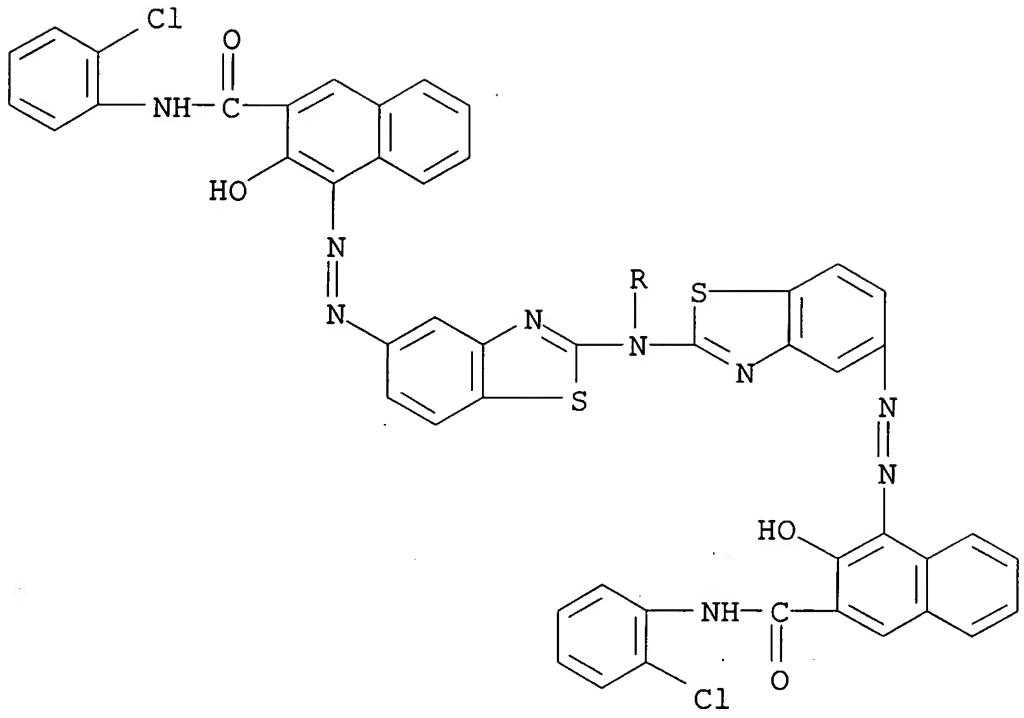
AB Electrophotog. photoreceptors have, on a conductive substrate, a photoconductive layer contg. a trisazo pigment I (R = coupler residue having phenolic OH group; Z = O, S). The photoreceptors exhibit good thermal resistance, lightfastness, sensitivity, and cyclicability and adaptable to all kinds of photog. processes. Thus, an Al substrate with an undercoat layer was coated with a compn. contg. II and butyral resin and overcoated with a compn. contg. p-diethylaminobenzaldehyde N-.alpha.-naphthyl-N-phenylhydrazone and poly(Me methacrylate) resin, and the obtained photoreceptor was corona charged (-5.5 kV) and exposed to a 2 lx source after 1 s in the dark. The initial potential and exposure required to reduce the retained potential after 1 s in the dark by half were -685 V and 1.8 lx-s, resp.

IT **128912-67-4 128912-70-9 128912-77-6**
(charge generating agent, for electrophotog. photoreceptors)

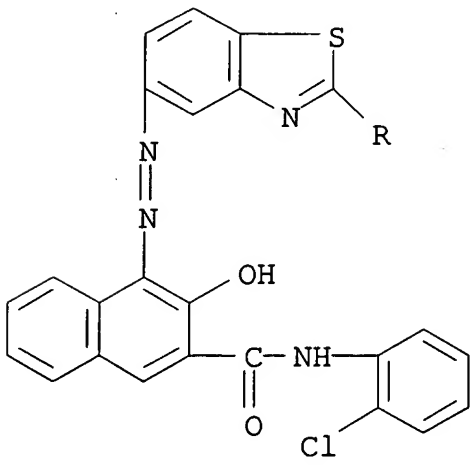
RN 128912-67-4 ZCA

CN 2-Naphthalenecarboxamide, 4,4',4''-[nitrilotris(2,5-benzothiazolediylazo)]tris[N-(2-chlorophenyl)-3-hydroxy- (9CI) (CA INDEX NAME)

PAGE 1-A



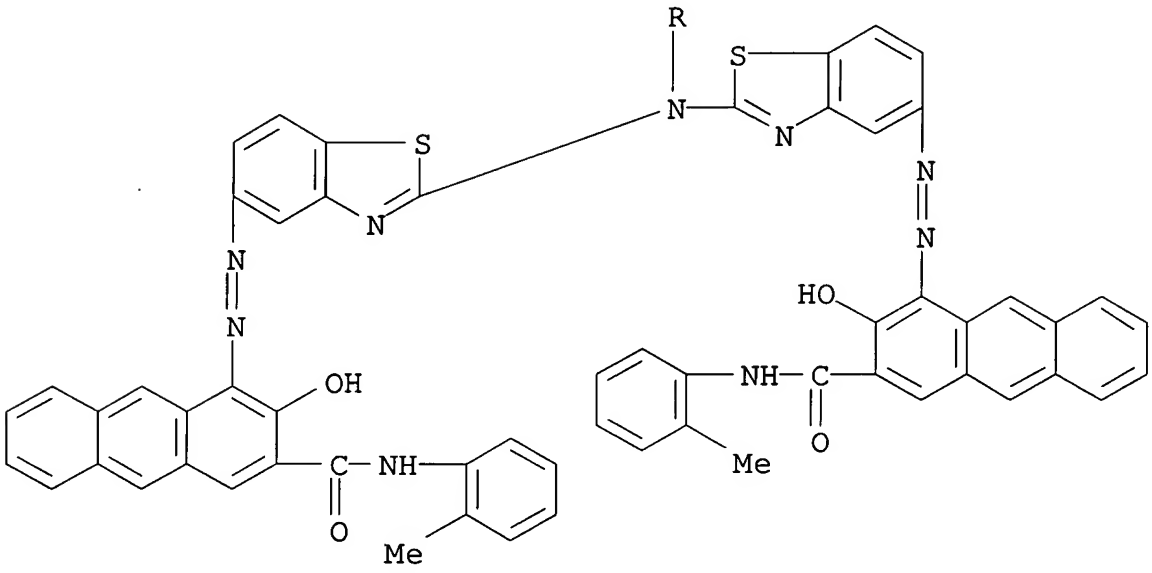
PAGE 2-A



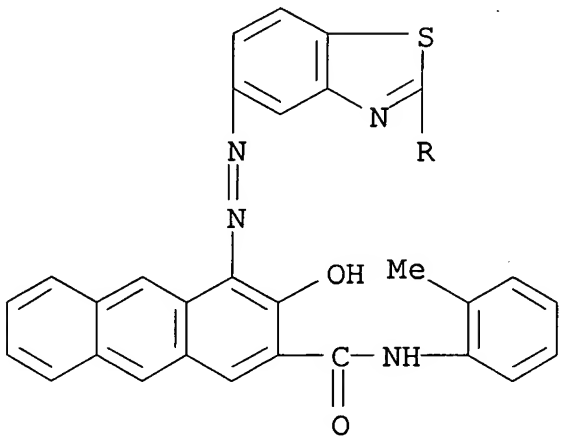
RN 128912-70-9 ZCA
CN 2-Anthracenecarboxamide, 4,4',4''-[nitrilotris(2,5-

benzothiazolediylazo)]tris[3-hydroxy-N-(2-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

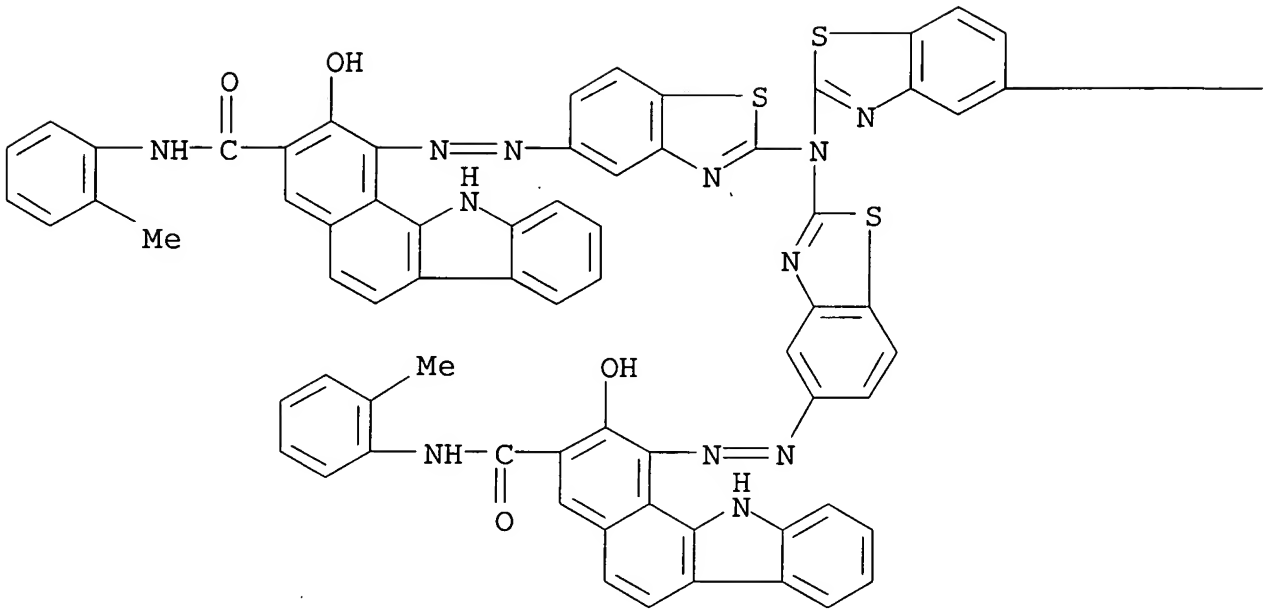


PAGE 2-A

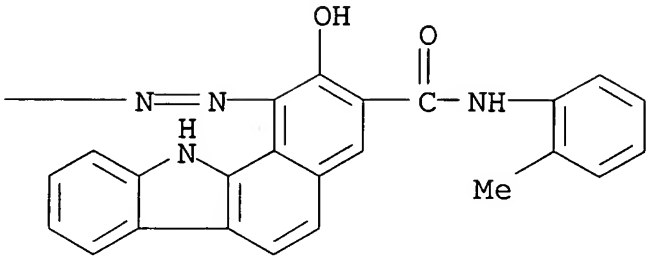


RN 128912-77-6 ZCA
CN 11H-Benzo[a]carbazole-3-carboxamide, 1,1',1''-[nitrilotris(2,5-benzothiazolediylazo)]tris[2-hydroxy-N-(2-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

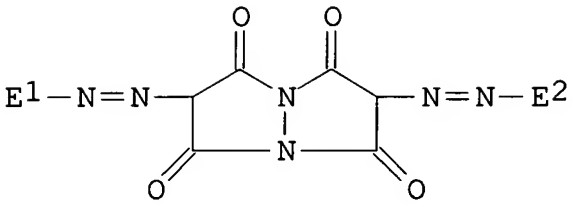


PAGE 1-B



IT **128912-67-4 128912-70-9 128912-77-6**
(charge generating agent, for electrophotog. photoreceptors)

L9 ANSWER 5 OF 21 ZCA COPYRIGHT 2005 ACS on STN
112:79427 Water-insoluble disazo dyes for polymers and coatings. Jung, Ruediger; Deubel, Reinhold (Hoechst A.-G., Fed. Rep. Ger.). Ger. Offen. DE 3738542 A1 19890524, 9 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1987-3738542 19871113.
GI



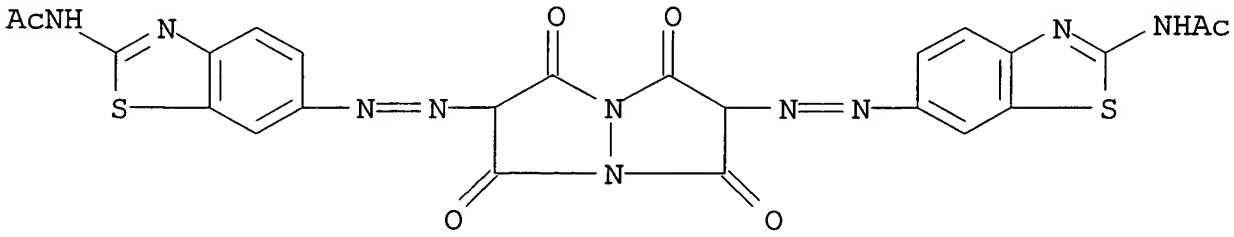
I

AB The title dyes I [E1, E2 = (un)substituted aryl], useful for polymers, lacquers, and printing inks, are prepd. by coupling diazotized arylamines with 1,5-diazabicyclo[3.3.0]octane-2,4,6,8-tetrone (II) (1:0.5 mol ratio, resp.) in the presence of an anionic or nonionic surfactant. 3-Amino-4-chlorobenzamide was diazotized and coupled with II in the presence of a 10% aq. soln. of polyethylene glycol oleyl ester, producing I (E1 = E2 = 2,5-Cl(H2NCO)C6H4) (no color data), which was used to color an alkyd-melamine resin lacquer.

IT **124282-64-0P**
(manuf. of, as water-insol. dyes for polymers and coating materials)

RN 124282-64-0 ZCA

CN Acetamide, N,N'-[(tetrahydro-1,3,5,7-tetraoxo-1H,5H-pyrazolo[1,2-a]pyrazole-2,6-diyl)bis(azo-6,2-benzothiazolediyl)]bis- (9CI) (CA INDEX NAME)

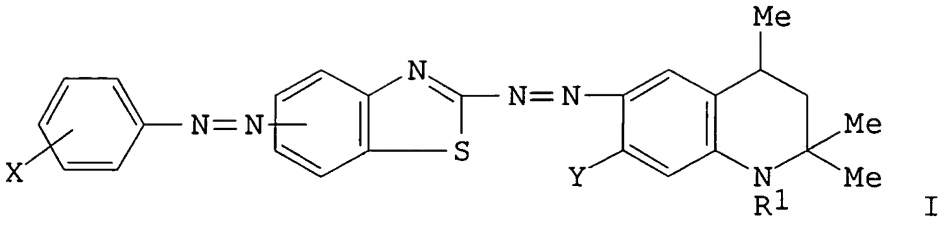


IT **124282-64-0P**
(manuf. of, as water-insol. dyes for polymers and coating materials)

L9 ANSWER 6 OF 21 ZCA COPYRIGHT 2005 ACS on STN

107:116951 Disazo dyes. Himeno, Kiyoshi; Yoshihara, Junji (Mitsubishi Chemical Industries Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 62039663 A2 19870220 Showa, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-177329 19850812.

GI



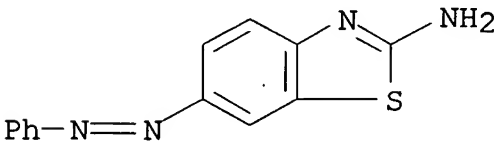
I

AB The title dyes I [X = H, halogen, C1-8 alkyl, C1-8 alkoxy, nitro, cyano, CF3, SO2R2, COR2, CO2R2; Y = H, Cl, Me, C1-4 alkoxy, acylamino; R1, R2 = H, alkenyl, aryl, (un)substituted C1-8 alkyl] were prepd. and used for dyeing polyester fibers in fast orange to blue shades. Thus, 2-amino-6-(phenylazo)benzothiazole was diazotized and coupled with 1-(2-acetoxyethyl)-2,2,4,7-tetramethyl-1,2,3,4-tetrahydroquinoline to give I (X = H; Y = Me; R1 = CH2CH2OAc), bluish red on polyester fiber with better wetfastness after polyurethane finishing than a similar conventional dye having a p-C6H4N(CH2CH2CN)CH2CH2OCH2CH2CN group in place of the tetrahydroquinoline group.

IT **27697-54-7**
(coupling of diazotized, with tetrahydroquinoline derivs.)

RN 27697-54-7 ZCA

CN 2-Benzothiazolamine, 6-(phenylazo)- (9CI) (CA INDEX NAME)

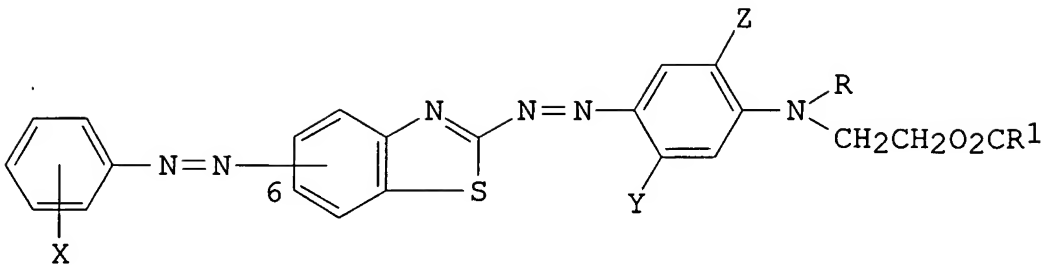


IT **27697-54-7**
(coupling of diazotized, with tetrahydroquinoline derivs.)

L9 ANSWER 7 OF 21 ZCA COPYRIGHT 2005 ACS on STN

106:215494 Disazo dyes. Himeno, Kiyoshi; Yoshihara, Junji (Mitsubishi Chemical Industries Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 62013460 A2 19870122 Showa, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-151203 19850711.

GI



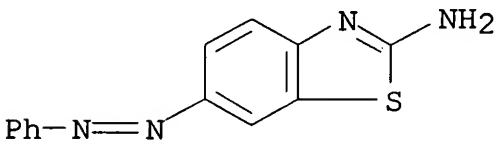
I

AB Disazo dyes I [X = H, halogen, alkyl, alkoxy, nitro, cyano, CF3, SO2R, COR, CO2R; Y = H, Cl, Me, lower alkoxy, acylamino; Z = H, Me, lower alkoxy, lower alkoxyalkoxy, Cl, Br; R = H, (un)substituted C1-8 alkyl, alkenyl, aryl, tetrahydrofurfuryl; R1 = halopropyl, C5-8 alkyl, C1-10 alkoxy, aralkyloxy, aralkyloxyalkoxy, PhO] were prepd. and used for dyeing polyester fibers in red shades showing excellent wetfastness after resin finishing. 2-Amino-6-(phenylazo)benzothiazole was diazotized and coupled with PhNMeCH2CH2O2C(CH2)3Cl to give I (X = Y = Z = H; R = Me; R1 = 3-chloropropyl; azo bonding at the 6-position).

IT **27697-54-7**, 2-Amino-6-(phenylazo)benzothiazole
(coupling of diazotized, with aniline derivs.)

RN 27697-54-7 ZCA

CN 2-Benzothiazolamine, 6-(phenylazo)- (9CI) (CA INDEX NAME)

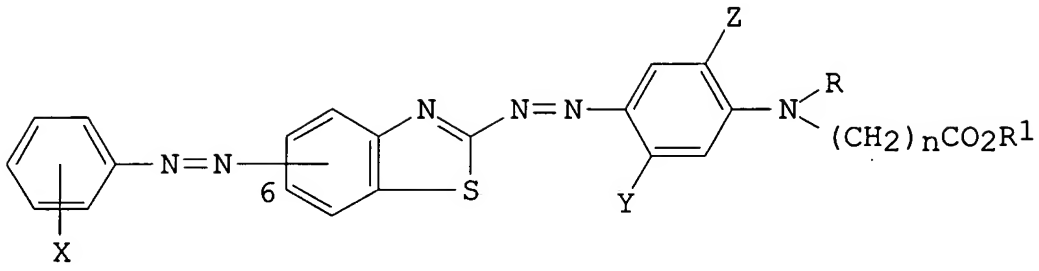


IT **27697-54-7**, 2-Amino-6-(phenylazo)benzothiazole
(coupling of diazotized, with aniline derivs.)

L9 ANSWER 8 OF 21 ZCA COPYRIGHT 2005 ACS on STN

106:157963 Disazo dyes. Himeno, Kiyoshi; Yoshihara, Junji (Mitsubishi Chemical Industries Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 62013461 A2 19870122 Showa, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-151204 19850711.

GI



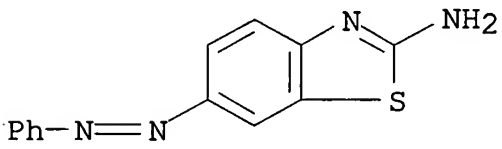
I

AB Disazo dyes I [X = H, halogen alkyl, alkoxy, nitro, cyano, CF3, SO2R, COR, CO2R; Y = H, Cl, Me, lower alkoxy, acrylamino; Z = H, Me, lower alkoxy, lower alkoxyalkoxy, Cl, Br; R = H, (un)substituted C1-8 alkyl, alkenyl, aryl, tetrahydrofurfuryl; R1 = C5-12 alkyl, aralkyl, phenoxyalkyl; n = 1-3] were prepd. and used for dyeing polyester fibers in red shades showing excellent wetfastness after resin finishing. Thus, 2-amino-6-(phenylazo)benzothiazole was diazotized and coupled with PhNMeCH2CH2CO2CH2CH2OPh to give I (X = Y = Z = H; R = Me; R1 = 2-phenoxyethyl; n = 2; azo bonding at the 6-position).

IT **27697-54-7**
(coupling of diazotized, with aniline derivs.)

RN 27697-54-7 ZCA

CN 2-Benzothiazolamine, 6-(phenylazo)- (9CI) (CA INDEX NAME)

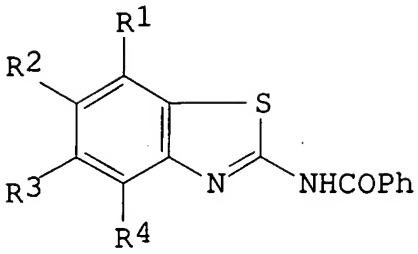


IT **27697-54-7**
(coupling of diazotized, with aniline derivs.)

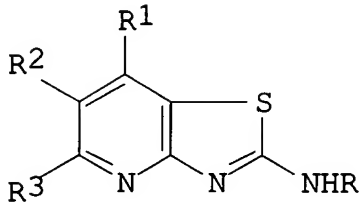
L9 ANSWER 9 OF 21 ZCA COPYRIGHT 2005 ACS on STN

104:207181 Synthesis and spectral characterization of some new N-substituted 2-aminobenzothiazoles, 2-aminothiazolopyridines and 2-aminothiazoloquinolines. Sarkis, George Y.; Faisal, Essam D. (Coll. Sci., Univ. Baghdad, Baghdad, Iraq). Journal of Heterocyclic Chemistry, 22(3), 725-8 (English) 1985. CODEN: JHTCAD. ISSN: 0022-152X. OTHER SOURCES: CASREACT 104:207181.

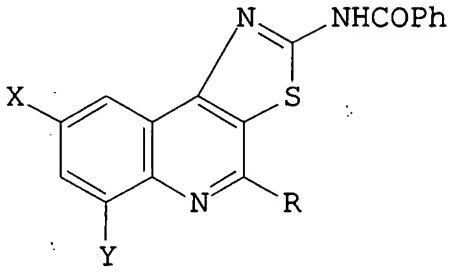
GI



I



II



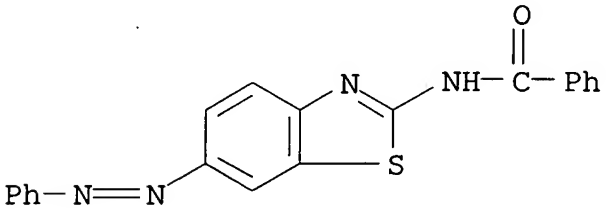
III

AB Title compds. I (R1 = H, NO2, OMe; R2 = H, Cl, NO2, NHAc, OMe, NEt2, N:NPh; R3 = H, NO2, OMe; R4 = H, Cl, NO2), II (R1 = H, Me; R2 = H, Cl; R3 = H, Cl, Me; R = p-FC6H4, Ph, COPh), and III (X, Y = H, Br; R = Me, p-ClC6H4, p-FC6H4) were prepd. by cyclization of N,N'-disubstituted thioureas by Br in HOAc.

IT **100856-61-9P**
(prepn. and spectra of)

RN 100856-61-9 ZCA

CN Benzamide, N-[6-(phenylazo)-2-benzothiazolyl]- (9CI) (CA INDEX NAME)



IT **100856-61-9P**
(prepn. and spectra of)

L9 ANSWER 10 OF 21 ZCA COPYRIGHT 2005 ACS on STN

93:169636 Disperse dyes. Part XVIII. Synthesis of disperse azo dyes from 2-amino-6-phenylazobenzothiazole and their dyeing properties. Patil, Arun R.; Sunthankar, S. V. (Dep. Chem. Technol., Univ. Bombay, Bombay, 400 019, India). Indian Journal of Textile Research, 5(1), 10-12 (English) 1980. CODEN: IJTRDU. ISSN:

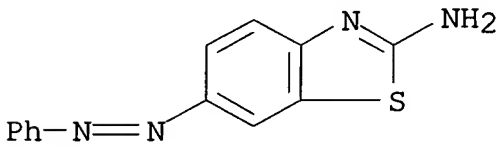
0377-8436.

AB 2-Amino-6-(phenylazo)benzothiazole (I) [**27697-54-7**] was prepd. in 93% yield by reaction of p-aminoazobenzene [148-87-8] with NH4NCS and Br in HOAc. I was diazotized in H3PO4-HNO3 mixts. and coupled with N,N-dialkylaniline derivs. to give disazo dyes. Some of these dyes showed good pickup and fastness on polyester fibers.

IT **27697-54-7P**
(prepn. and azo coupling with substituted aniline derivs.)

RN 27697-54-7 ZCA

CN 2-Benzothiazolamine, 6-(phenylazo)- (9CI) (CA INDEX NAME)



IT **27697-54-7P**
(prepn. and azo coupling with substituted aniline derivs.)

L9 ANSWER 11 OF 21 ZCA COPYRIGHT 2005 ACS on STN

83:97108 Synthesis of thiaza heterocycles. Fenech, Giovanna; Basile, Maria; Previtera, Tindara (Ist. Chim. Farm. Tossicol., Univ. Messina, Messina, Italy). Atti della Societa Peloritana di Scienze Fisiche, Matematiche e Naturali, 19(1-2), 53-74 (Italian) 1973. CODEN: ASPSAJ. ISSN: 0037-8860. OTHER SOURCES: CASREACT 83:97108.

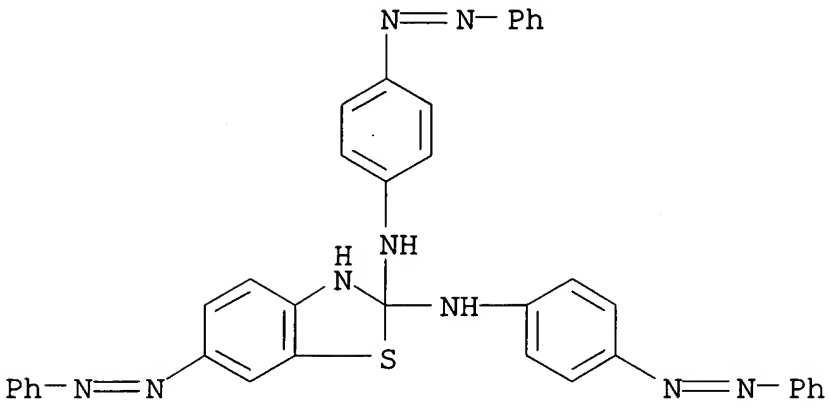
GI For diagram(s), see printed CA Issue.

AB The reaction of p-H2NC6H4N:NPh with trioxane and S gave PhN:NC6H4R-p (R = NHCHO, NCS, NHAc, N:CH2), I, and II.

IT **56698-55-6P**
(prepn. of)

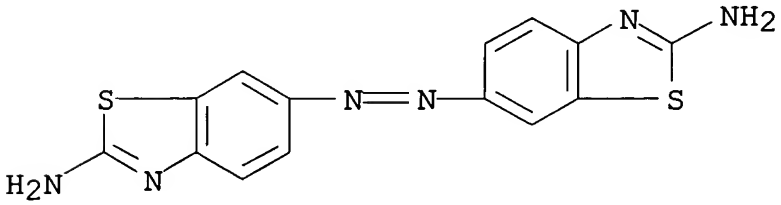
RN 56698-55-6 ZCA

CN 2,2(3H)-Benzothiazolediamine, 6-(phenylazo)-N,N'-bis[4-(phenylazo)phenyl]- (9CI) (CA INDEX NAME)



IT **56698-55-6P**
(prepn. of)

L9 ANSWER 12 OF 21 ZCA COPYRIGHT 2005 ACS on STN
81:120139 Thiocyanation of dianilines. I. Experimental results. Bouanane, Abdelhakim; Lochon, Pierre; Neel, Jean (Lab. Chim. Phys. Macromol., Ec. Natl. Super. Ind. Chim., Nancy, Fr.). Bulletin de la Societe Chimique de France (3-4, Pt. 2), 641-8 (French) 1974. CODEN: BSCFAS. ISSN: 0037-8968.
GI For diagram(s), see printed CA Issue.
AB Dianilines (4-H2NC6H4)2Q were thiocyanated to give bis-(.omicron.-aminophenyl thiocyanates) (I) and bis(2-aminobenzothiazoles) (II; Q = SO2, CO, N:N, S, O, ureylene, CH2, CH2CH2, CMe2, cyclohexylidene). Similarly prepd. were thiocyanates (III; Q = SO2, CO, O, CH2, CMe2), 4,4'-diaminobiphenyl 3,3'-dithiocyanate, and 6,6'-bis(2-aminobenzothiazole).
IT **53357-03-2P**
(prepn. of)
RN 53357-03-2 ZCA
CN 2-Benzothiazolamine, 6,6'-azobis- (9CI) (CA INDEX NAME)



IT **53357-03-2P**
(prepn. of)

L9 ANSWER 13 OF 21 ZCA COPYRIGHT 2005 ACS on STN

70:68232 Quaternary salts of 2-aminonaphtho[1,2-d]thiazoles.
Pentimalli, Luciano; Greci, Lucedio (Univ. Bologna, Bologna, Italy).
Gazzetta Chimica Italiana, 98(11), 1369-79 (Italian) 1968. CODEN: GCITA9. ISSN: 0016-5603.

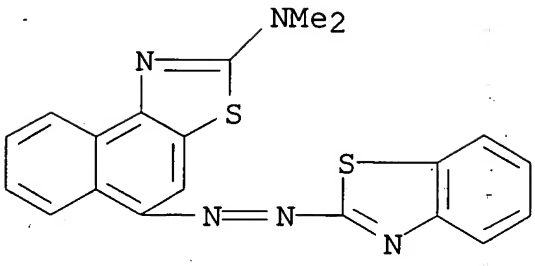
GI For diagram(s), see printed CA Issue.

AB Some 2-aminonaphtho[1,2-d]thiazoles were prepd. and treated with Me2SO4 to give monomethosulfate derivs. on the cyclic N atom. Quaternary salts of 2-[p-[N,N-bis(2-hydroxyethyl)amino]phenylazo]thiazoles were also prepd. The compds. were characterized from absorption spectra and the structure of the salts was established by comparison with 2-phenylazobenzothiazole and 2-phenylazonaphthothiazole. .alpha.-Naphthothiourea, m. 197.degree. (10 g.), was dissolved in 45 cc. PhCl and refluxed 5 hrs., kept 60-90 min., and distd. in vacuo to give 8 g. .alpha.-naphthyl isothiocyanate (I), m. 57-8.degree.. To 8 g. I in 50 cc. EtOH, 15 cc. 30% Me2NH in EtOH was added slowly, and the mixt. boiled 10 min. to give 9.2 g. N,N-dimethyl-N'-.alpha.-naphthylthiourea, m. 165.degree.. This in 100 cc. CHCl3 was treated at 5-10.degree. with 6.5 g. Br in 10 cc. CHCl3, and the soln. boiled, satd. with SO2, and filtered to give II (R = NMe2), m. 118.degree. refluxed with 3 moles Me2SO4 30 min. at 95-105.degree. to give the methosulfate, m. 220.degree.. The following II were similarly prepd. (R, m.p., and m.p. methosulfate given): NHPh, 135.degree., 176-7.degree.; and morpholino, 93.degree., 136.degree.. II were diazotized and coupled with a basic naphthothiazole in AcOH with successive addns. of satd. NaOAc soln. (product, m.p., and m.p. methosulfate given): 2-dimethylamino-5-(benzothiazol-2-ylazo)-naphtho[1,2-d]thiazole, 157, 228.degree.; 2-morpholino-5-(.alpha.-naphthothiazol-2-ylazo)naphtho[1,2-d]thiazole, 279-81, 240.degree.; and 2-phenylamino-5-(thiazol-2-ylazo)naphtho[1,2-d]thiazole, 150, 217.degree.. A soln. of 1.5 g. 2-aminobenzothiazole (III) in 10 cc. C5H5N was added to 1.1 g. PhNO in 10 cc. C5H5N, and the mixt. stirred with 2 g. KOH 24 hrs. and worked up to give 60% 2-(phenylazo)benzothiazole, m. 142.degree.; methosulfate m. 113.degree.. 2-Phenylazonaphtho[2,1-d]thiazole, m. 157.degree., and II (R = N:NPh), m. 181.degree., were similarly prepd. III (1.5 g.) was diazotized in 15 cc. HCO2H and 4 cc. 96% H2SO4 and coupled with 1.8 g. N-phenyldiethanolamine in AcOH to give 2-[p-[N,N-bis(2-hydroxyethyl)amino]phenylazo]benzothiazole, m. 200.degree..

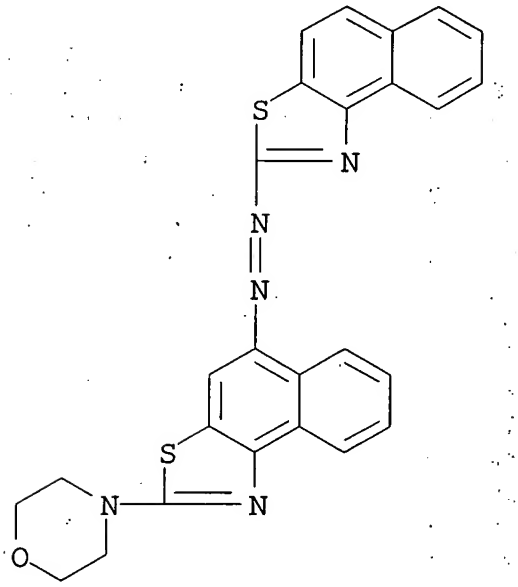
IT **21431-46-9P 21431-48-1P 21431-50-5P**
22681-31-8P 22681-32-9P 22753-13-5P
(prepn. of)

RN 21431-46-9 ZCA

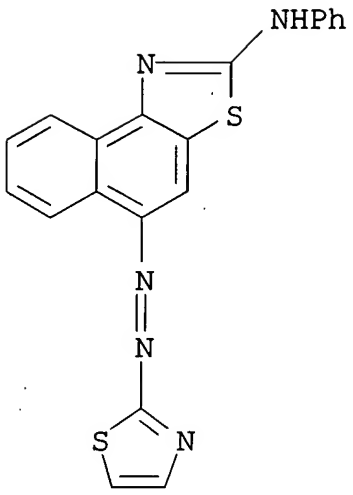
CN Naphtho[1,2-d]thiazole, 5-(2-benzothiazolylazo)-2-(dimethylamino)-(6CI, 8CI) (CA INDEX NAME)



RN 21431-48-1 ZCA
CN Naphtho[1,2-d]thiazole, 2'-morpholino-2,5'-azobis- (6CI, 8CI) (CA INDEX NAME)



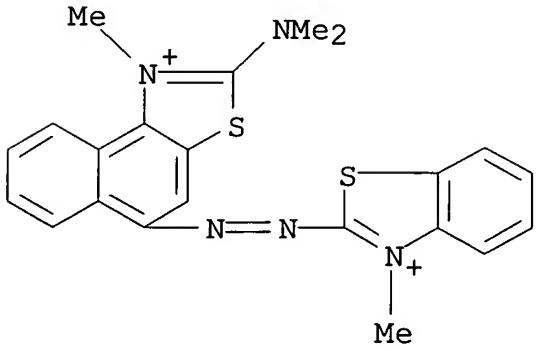
RN 21431-50-5 ZCA
CN Naphtho[1,2-d]thiazole, 2-anilino-5-(2-thiazolylazo)- (6CI, 8CI) (CA INDEX NAME)



RN 22681-31-8 ZCA
CN Naphtho[1,2-d]thiazolium, 2-(dimethylamino)-1-methyl-5-[(3-methylbenzothiazolium-2-yl)azo]-, bis(methyl sulfate) (8CI) (CA INDEX NAME)

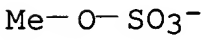
CM 1

CRN 47616-06-8
CMF C22 H21 N5 S2



CM 2

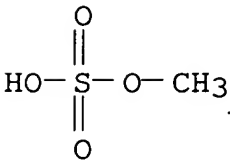
CRN 21228-90-0
CMF C H3 O4 S



RN 22681-32-9 ZCA
CN Thiazolium, 2-[[1,2-dihydro-1-methyl-2-(phenylimino)naphtho[1,2-d]thiazol-5-yl]azo]-3-methyl-, methyl sulfate, mono(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

CRN 75-93-4
CMF C H4 O4 S

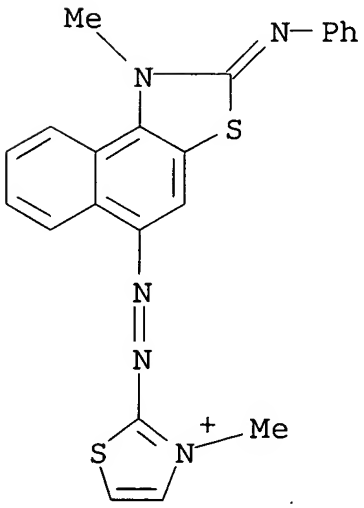


CM 2

CRN 146076-47-3
CMF C22 H18 N5 S2 . C H3 O4 S

CM 3

CRN 47616-07-9
CMF C22 H18 N5 S2



CM 4

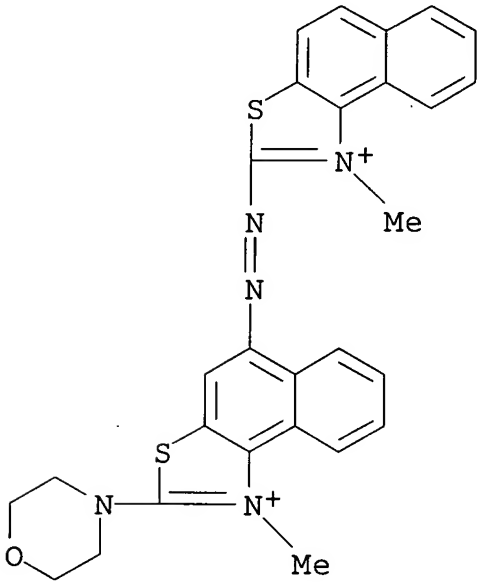
CRN 21228-90-0
CMF C H3 O4 S

Me—O—SO_3^-

RN 22753-13-5 ZCA
CN Naphtho[1,2-d]thiazolium, 2'-morpholino-2,5'-azobis[1-methyl-, bis(methyl sulfate) (8CI) (CA INDEX NAME)

CM 1

CRN 47773-03-5
CMF C28 H25 N5 O S2



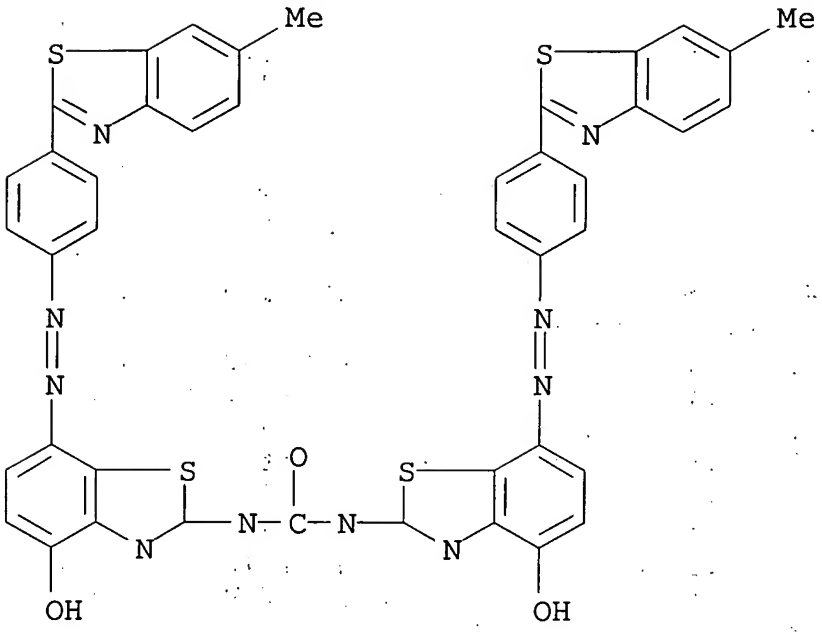
CM 2

CRN 21228-90-0
CMF C H3 O4 S

Me—O—SO_3^-

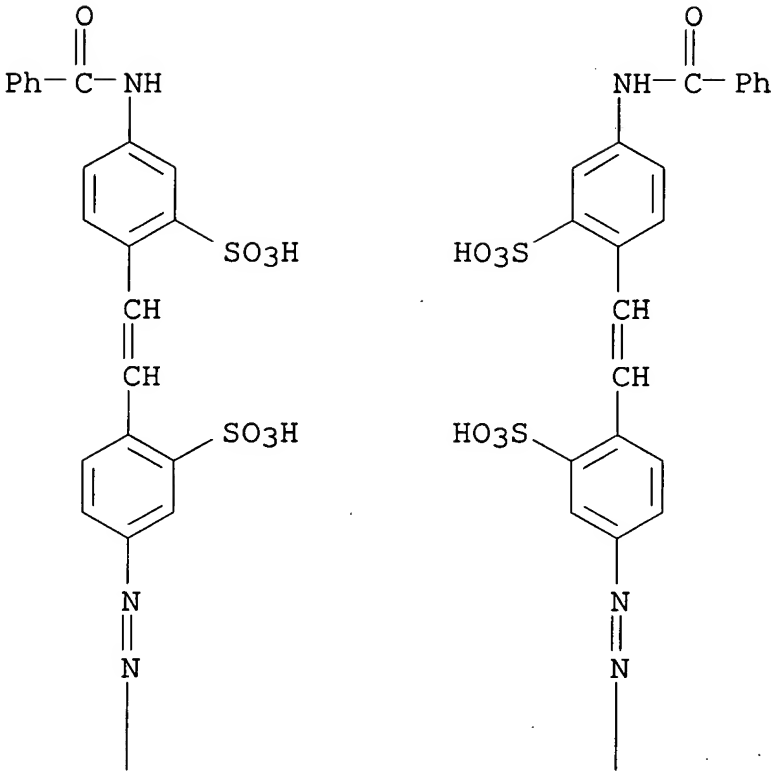
IT **21431-46-9P 21431-48-1P 21431-50-5P 22681-31-8P 22681-32-9P 22753-13-5P**
(prepn. of)

L9 ANSWER 14 OF 21 ZCA COPYRIGHT 2005 ACS on STN
53:127939 Original Reference No. 53:22970c-g Metal-containing polyazo coloring matters derived from benzothiazole. Davies, Robert R.; Pearson, Kenneth W. (Imperial Chemical Industries Ltd.). GB 811740 19590408 (Unavailable). APPLICATION: GB .
GI For diagram(s), see printed CA Issue.
AB Cu and Ni derivs. of the azo compds. of the formula I were prepd., in which A and A' are the same or different aromatic radicals, X is a CO, terephthaloyl, fumaroyl, or 2,4-bivalent 1,3,5-triazinyl radical substituted in the 6-position by NH2 or substituted NH2, and the benzene ring of the benzothiazole group may be further substituted. 4-Amino-4'-benzamidostilbene-2,2'-disulfonic acid (II) 4.8, dissolved in water 100 and 2N Na2CO3 soln. 10, was diazotized and added below 10.degree. to N,N'-bis(4-hydroxy-2-benzothiazolyl)urea (III) 1.86 in water 25 and 2N aq. NaOH 5 parts, keeping the mixt. alk. to Brilliant Yellow by adding 2N aq. Na2CO3 as required. The mixt. was stirred for 8 hrs. at <10.degree. and NaCl added. The ppt. was filtered off, washed with 20%, and drained to give the dye. The latter, dissolved in water 200 and aq. NH3 (d. 0.88) 4.4, was heated to 70.degree., CuSO4 3 in water 20 and aq. NH3 (d. 0.88) 4.4 parts added, and the mixt. stirred for 30 min. at 70-5.degree. with periodic addns. of aq. NH3. The ppt. was filtered off, washed with water, and dissolved in boiling water 200 with 2N aq. Na2CO3 until the soln. was alk. to Brilliant Yellow. The soln. was filtered, NaCl 10 added to the filtrate, the ppt. filtered off, washed with 5% brine, and dried to give the Cu deriv., orange powder, dyeing cellulose fibers in bright-orange shades of good light- and wash-fastness, and showing no change of shade on crease-resist processing. Dehydrothio-p-toluidine 4.9 parts was diazotized, coupled with III 3.72, the resulting pigment 3.1, mixed with the addn. compd. 14 of Et3N and SO3, and heated for 1 hr. at 115-20.degree. to give the dye. The latter, when applied to cellulose fibers by the normal acidic aftercoppering process, gave orange shades of good light- and wash-fastness.
IT **103401-18-9**, Urea, 1,3-bis(4-hydroxy-7-(p-6-methyl-2-benzothiazolylphenylazo)-2-benzothiazolyl]- **108247-61-6**, 2,2'-Stilbenedisulfonic acid, 4,4''-[ureylenebis[(4-hydroxy-2,7-benzothiazolediyl)azo]]bis[4'-benzamido- **121969-22-0**, Urea, 1,3-bis(4-hydroxy-7-(p-6-methyl-2-benzothiazolylphenylazo)-2-benzothiazolyl]-, bis(hydrogen sulfate)
(prepn. of)
RN 103401-18-9 ZCA
CN Urea, 1,3-bis[4-hydroxy-7-(p-6-methyl-2-benzothiazolylphenylazo)-2-benzothiazolyl]- (6CI) (CA INDEX NAME)

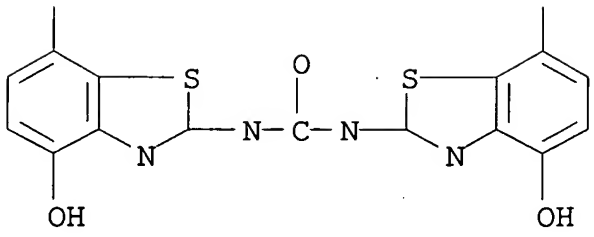


ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE
RN 108247-61-6 ZCA
CN 2,2'-Stilbenedisulfonic acid, 4,4''-[ureylenebis[(4-hydroxy-2,7-benzothiazolediyl)azo]]bis[4'-benzamido- (6CI) (CA INDEX NAME)

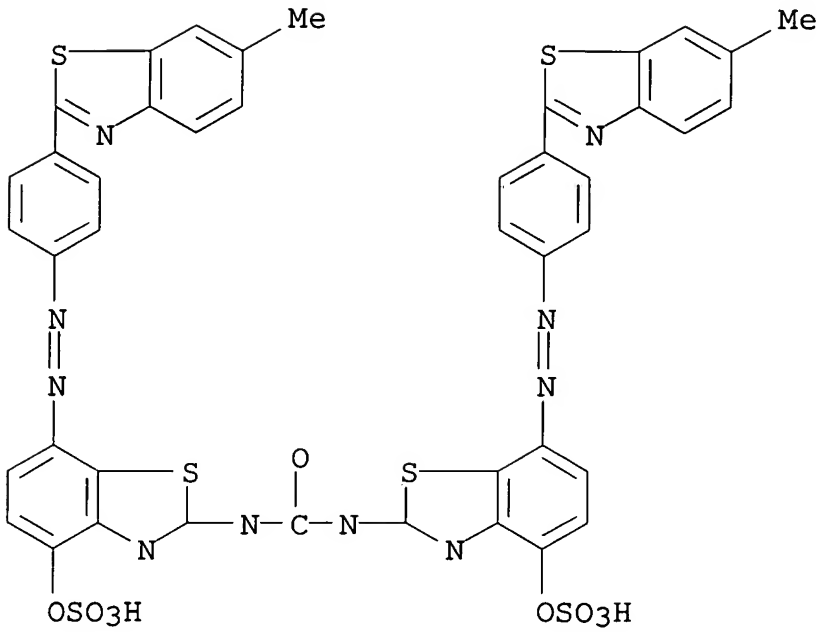
PAGE 1-A



PAGE 2-A



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE
RN 121969-22-0 ZCA
CN Urea, 1,3-bis[4-hydroxy-7-(p-6-methyl-2-benzothiazolylphenylazo)-2-benzothiazolyl]-, bis(H sulfate) (6CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

IT **103401-18-9**, Urea, 1,3-bis(4-hydroxy-7-(p-6-methyl-2-benzothiazolylphenylazo)-2-benzothiazolyl]- **108247-61-6**, 2,2'-Stilbenedisulfonic acid, 4,4''-[ureylenebis[(4-hydroxy-2,7-benzothiazolediyl)azo]]bis[4'-benzamido- **121969-22-0**, Urea, 1,3-bis(4-hydroxy-7-(p-6-methyl-2-benzothiazolylphenylazo)-2-benzothiazolyl]-, bis(hydrogen sulfate)
(prepn. of)

L9 ANSWER 15 OF 21 ZCA COPYRIGHT 2005 ACS on STN

53:42414 Original Reference No. 53:7610c-f Metalizable monoazo dyes of the phenylazo-4-hydroxybenzothiazole series. Legg, Norman (Imperial Chemical Industries Ltd.). GB 801900 19580924 (Unavailable). APPLICATION: GB .

GI For diagram(s), see printed CA Issue.

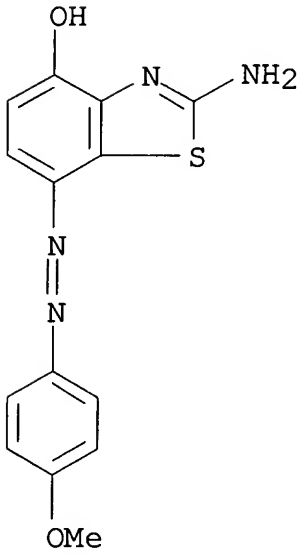
AB Yellow metalizable monoazo dyes of the formula I are suitable for coloring artificial textiles. X is H, halogen, Ph, NH2, or an acetamido radical, and Y can be substituted. Thus, 1.23 parts 4-anisidine (I) is diazotized and coupled with 1.51 parts 4-hydroxybenzothiazole (II). 4-Aminophenyl 2-hydroxyethyl ether (III) 1.53, can replace I. 2-Chloro-4-hydroxybenzothiazole 1.86 or 2-amino-4-hydroxybenzothiazole 1.66 parts can replace II in the first example. Diazotized III 1.53 is coupled with 2-phenyl-4-hydroxybenzothiazole 2.27 parts. Diazotized PhNH2 1.16 is coupled with 2.6 parts 2-acetamido-4-hydroxybenzothiazole. All products give yellow shades when aftercoppered on nylon or cellulose

acetate.

IT **100621-25-8**, 4-Benzothiazolol, 2-amino-7-(p-methoxyphenylazo)- **100881-44-5**, 4-Benzothiazolol, 2-acetamido-7-phenylazo- **101352-08-3**, 4-Benzothiazolol, 2-acetamido-7-(p-methoxyphenylazo)-
(prepn. of)

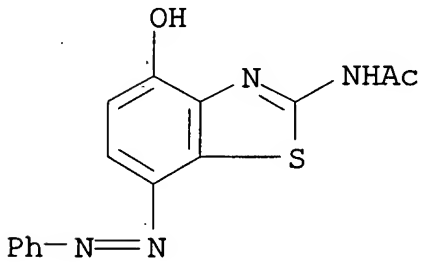
RN 100621-25-8 ZCA

CN 4-Benzothiazolol, 2-amino-7-(p-methoxyphenylazo)- (6CI) (CA INDEX NAME)



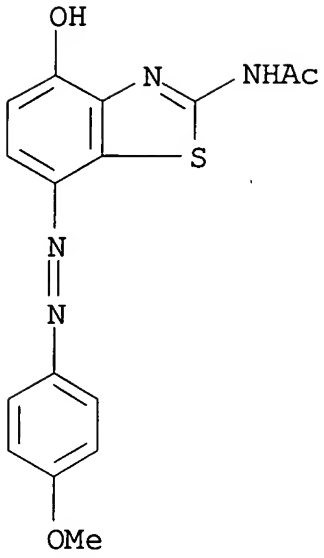
RN 100881-44-5 ZCA

CN 4-Benzothiazolol, 2-acetamido-7-phenylazo- (6CI) (CA INDEX NAME)



RN 101352-08-3 ZCA

CN 4-Benzothiazolol, 2-acetamido-7-(p-methoxyphenylazo)- (6CI) (CA INDEX NAME)



IT **100621-25-8**, 4-Benzothiazolol, 2-amino-7-(p-methoxyphenylazo)- **100881-44-5**, 4-Benzothiazolol, 2-acetamido-7-phenylazo- **101352-08-3**, 4-Benzothiazolol, 2-acetamido-7-(p-methoxyphenylazo)-
(prepn. of)

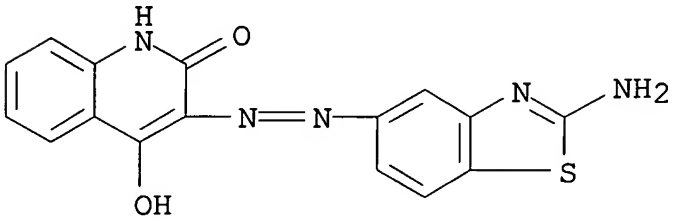
L9 ANSWER 16 OF 21 ZCA COPYRIGHT 2005 ACS on STN
51:37071 Original Reference No. 51:7015e-g Azo dyes derived from 2,4-dihydroxyquinoline. Pentimalli, Luciano (Univ. Bologna, Italy). Chim. e ind. (Milan), 39, 11-14 (Unavailable) 1957.
AB Coupling of the thiazole nucleus with 2,4-(OH)2C9H5N (I) produces dyes suitable for dispersion dyeing of acetate silk and nylon and for dyeing wool on chrome mordant. Substituted aminothiazoles (II) are diazotized in the usual manner and the coupling agent I is added in soln. with the calcd. amt. of NaOH. Na2CO3 is used to maintain alkalinity during coupling and to avoid the decompn. of the ArN: N-compd. with a stronger alkali. Dyes with the structure 2,4,3-(OH)2(ArN:N)C9H4N were prepd. by coupling I with the following II (Ar groups) (II, m.p. of II, cryst. from of II, solvent, and color of II given): 2-aminothiazole (III) 145.degree., needles from AcOH, brown; 2-aminobenzothiazole (IV) 243.degree., prisms from AcOH, red-brown; 6-NO2-IV 125.degree., prisms from AcOH, red-brown; 6-Me-IV 175.degree., prisms from AcOH, orange-brown; 6-MeO-IV 250.degree., needles from C5H5N, red-purple; 6-Br-IV 120.degree., prisms from AcOH, orange; 2-phenyl-6-aminobenzothiazole 143.degree., needles from AcOH, orange; 2,5-diaminobenzothiazole 300.degree., needles from C5H5N, red-purple; 2-amino-.alpha.-naphthothiazole 214.degree., prisms from C5H5N, red-brown; 2-amino-.beta.-

naphthothiazole 250.degree., needles from C5H5N, red-purple.

IT **107625-78-5**, 2,4-Quinolinediol, 3-(2-amino-5-benzothiazolylazo)-
(prepn. of)

RN 107625-78-5 ZCA

CN 2,4-Quinolinediol, 3-(2-amino-5-benzothiazolylazo)- (6CI) (CA INDEX NAME)



IT **107625-78-5**, 2,4-Quinolinediol, 3-(2-amino-5-benzothiazolylazo)-
(prepn. of)

L9 ANSWER 17 OF 21 ZCA COPYRIGHT 2005 ACS on STN

51:37070 Original Reference No. 51:7013i,7014i,7015a-e Dispersed thiazole azo dyes. Pentimalli, Luciano (Univ. Bologna, Italy). Chimica e l'Industria (Milan, Italy), 39, 7-11 (Unavailable) 1957. CODEN: CINMAB. ISSN: 0009-4315.

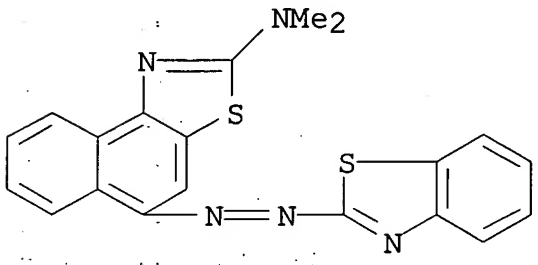
AB Several new thiazole azo compds. are described which are suitable as dispersion dyes for synthetic fibers. The dyes were made by diazotization of p-NO2C6H4NH2 (I), 2,4-(NO2)2C6H3NH2 (II), 2-aminothiazole (III), 2-aminobenzothiazole (IV), 2-amino-.alpha.-naphthothiazole (V), and 2-amino-.beta.-naphthothiazole (VI), followed by coupling in HCl or AcOH soln. with various N-substituted 2-amino-.beta.-naphthothiazoles. The latter were synthesized by prolonged heating of 1-C10H7NHCSNH2 in PhCl giving 1-C10H7NCS (VII). The technique of Kaye and Parris (C.A. 46, 9094b) was employed in the addn. of the appropriate amines to VII, and cyclization was effected with Br in CHCl3 giving the following coupling agents: 2-dimethylamino- (VIII), 2-anilino- (IX), 2-morpholino- (X), and 2-[bis (2-hydroxyethyl)amino]-.beta.-naphthothiazole (XI). In addn. to the preceding, PhN(CH2CH2OH)2 (XII) was also used as a coupling agent. Following are the characteristics of the intermediates and the coupling agents (m.p., cryst. form, and solvent given): 1-C10H7NHCSN(Me)2 165.degree., needles from petr. ether; VIII 118.degree., prisms from alc.; 1-C10H7NHCSNHPh 161.degree., plates from petr. ether; IX 135.degree., plates from petr. ether; 1-C10H7NHCSN(CH2CH2)2O 163.degree., prisms from alc.; X 101.degree., needles from petr. ether; 1-C10H7NHCSN(CH2CH2OH)2 152.degree., needles from alc.; XI

picrate 167.degree., prisms from alc. The dyes and their properties are (diazotized base-coupling agent, m.p. of dye, cryst. form, solvent, and color given): II-IX, 260.degree., prisms, C5H5N, purple; III-IX, 150.degree., prisms, C5H5N, purple; IV-IX, 272.degree., prisms, C5H5N, purple; V-IX, 300.degree., plates, C5H5N, purple; VI-IX, 280.degree., needles, petr. ether, purple; I-X, 270.degree., plates, petr. ether, red-purple; II-X, 256.degree., plates, petr. ether, purple; III-X, 202.degree., prisms, petr. ether, red; IV-X, 231.degree., needles, petr. ether, purple; V-X, 263.degree., prisms, C5H5N, purple; VI-X, 263.degree., prisms, C5H5N, purple; I-XI, 185.degree., prisms, C5H5N, red-purple; III-XI, >300.degree., prisms, alc., purple; IV-XI, >300.degree., prisms, alc., purple; V-XI, 200.degree., plates, alc., violet; VI-XI, 183.degree., needles, alc., purple; I-VIII, 120.degree., needles, alc., red-brown; III-VIII, 204.degree., needles, alc., purple; IV-VIII, 157.degree., needles, C5H5N, red-purple; V-VIII 273.degree., plates, C5H5N, violet; VI-VIII 263.degree., prisms, C5H5N, purple; III-XII 172.degree., plates, alc., red-brown; IV-XII 200.degree., prisms, alc., violet; V-XII 206.degree., prisms, alc., red-brown; VI-XII 203.degree., needles, alc., violet; The dyes are water-insol. compds. and those resulting from the coupling of VIII and XII are alc. sol., while those from IX, X, and XI are insol. in hot and cold alc. Preliminary tests indicate that the dyes possess affinity and fastness to wet treatments and fastness to light.

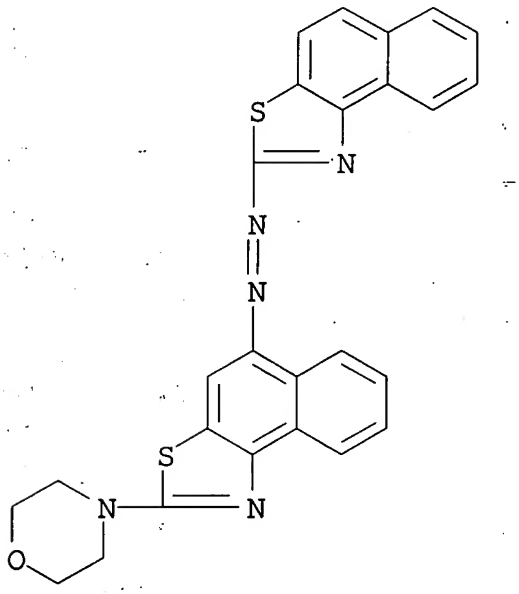
IT **21431-46-9**, Naphtho[1,2-d]thiazole, 5-(2-benzothiazolylazo)-2-dimethylamino- **21431-48-1**, Naphtho[1,2-d]thiazole, 2'-morpholino-2,5'-azobis- **21431-50-5**, Naphtho[1,2-d]thiazole, 2-anilino-5-(2-thiazolylazo)- **109513-70-4**, Ethanol, 2,2'-[5-(2-thiazolylazo)naphtho[1,2-d]thiazol-2-ylimino]di- **109723-22-0**, Naphtho[1,2-d]thiazole, 2-morpholino-5-(2-thiazolylazo)- **109818-13-5**, Naphtho[1,2-d]thiazole, 2-dimethylamino-5-(p-nitrophenylazo)- **112223-60-6**, Naphtho[1,2-d]thiazole, 2-morpholino-5-(p-nitrophenylazo)- **112866-12-3**, Naphtho[1,2-d]thiazole, 5-(2-benzothiazolylazo)-2-morpholino- **113037-27-7**, Naphtho[1,2-d]thiazole, 5-(2,4-dinitrophenylazo)-2-morpholino- **114947-16-9**, Naphtho[1,2-d]thiazole, 2-anilino-5-(2,4-dinitrophenylazo)- **115003-52-6**, Ethanol, 2,2'-[5-(2-benzothiazolylazo)naphtho[1,2-d]thiazol-2-ylimino]di- **115985-21-2**, Naphtho[1,2-d]thiazole, 2'-dimethylamino-2,5'-azobis- **115985-22-3**, Naphtho[1,2-d]thiazole, 2-dimethylamino-5-naphtho[2,1-d]thiazol-2-ylazo- **120233-62-7**, Naphtho[1,2-d]thiazole, 2-anilino-5-(2-benzothiazolylazo)- **124121-81-9**, Naphtho[1,2-d]thiazole, 2'-anilino-2,5'-azobis- **124121-82-0**, Naphtho[1,2-d]thiazole, 2-anilino-5-naphtho[2,1-d]thiazol-2-ylazo- **124143-10-8**, Naphtho[1,2-d]thiazole, 2-morpholino-5-naphtho[2,1-d]thiazol-2-ylazo- **124180-38-7**, Ethanol, 2,2'-(5-naphtho[2,1-d]thiazol-2-ylazonaphtho[1,2-d]thiazol-

2-yl]imino)di- **124180-39-8**, Ethanol, 2,2'-(5-naphtho[1,2-d]thiazol-2-ylazonaphtho[1,2-d]thiazol-2-ylimino)di- **130862-27-0**, Naphtho[1,2-d]thiazole, 2-dimethylamino-5-(2-thiazolylazo)-
(prepn. of)

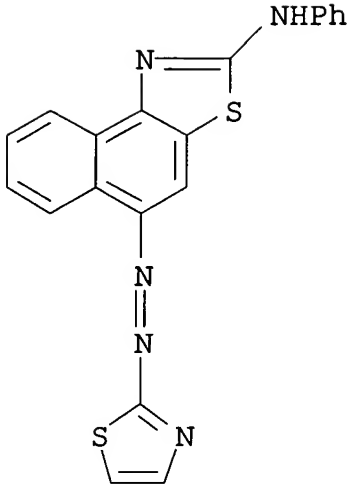
RN 21431-46-9 ZCA
CN Naphtho[1,2-d]thiazole, 5-(2-benzothiazolylazo)-2-(dimethylamino)- (6CI, 8CI) (CA INDEX NAME)



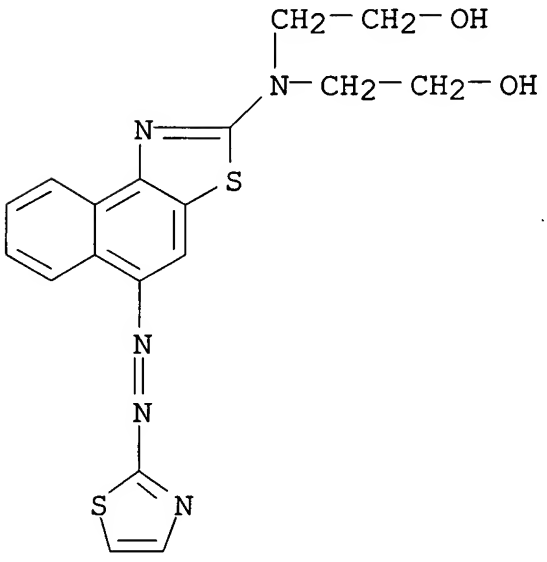
RN 21431-48-1 ZCA
CN Naphtho[1,2-d]thiazole, 2'-morpholino-2,5'-azobis- (6CI, 8CI) (CA INDEX NAME)



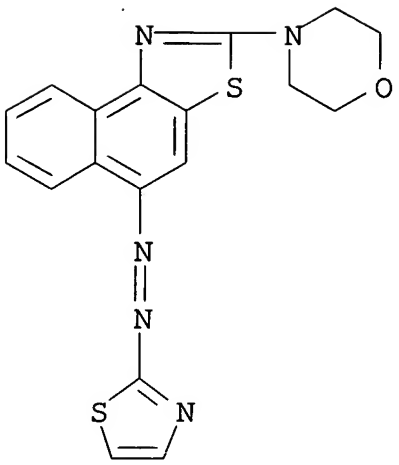
RN 21431-50-5 ZCA
CN Naphtho[1,2-d]thiazole, 2-anilino-5-(2-thiazolylazo)- (6CI, 8CI) (CA INDEX NAME)



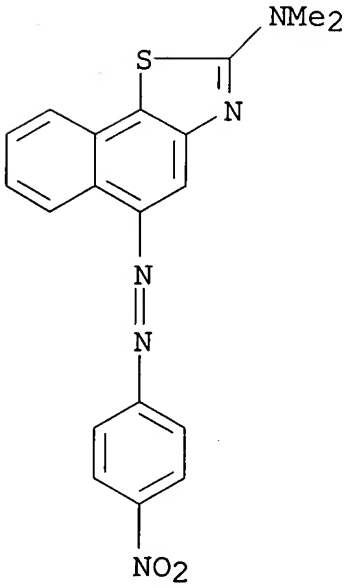
RN 109513-70-4 ZCA
CN Ethanol, 2,2'-[5-(2-thiazolylazo)naphtho[1,2-d]thiazol-2-ylimino]di- (6CI) (CA INDEX NAME)



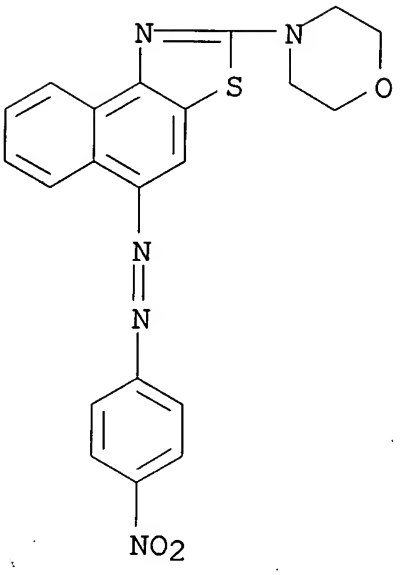
RN 109723-22-0 ZCA
CN Naphtho[1,2-d]thiazole, 2-morpholino-5-(2-thiazolylazo)- (6CI) (CA INDEX NAME)



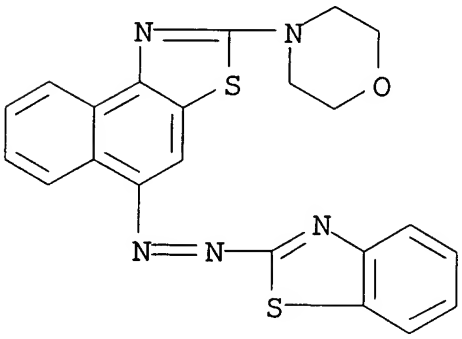
RN 109818-13-5 ZCA
CN Naphtho[1,2-d]thiazole, 2-dimethylamino-5-(p-nitrophenylazo)- (6CI) (CA INDEX NAME)



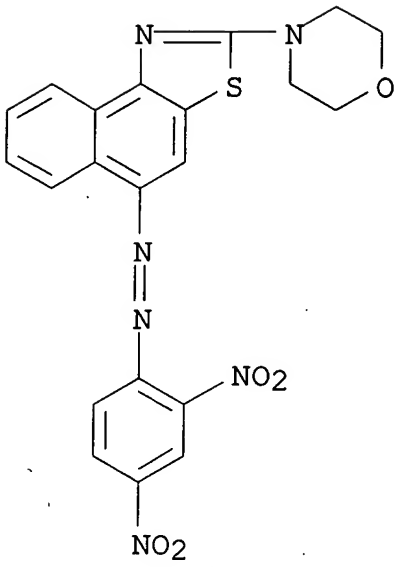
RN 112223-60-6 ZCA
CN Naphtho[1,2-d]thiazole, 2-morpholino-5-(p-nitrophenylazo)- (6CI) (CA INDEX NAME)



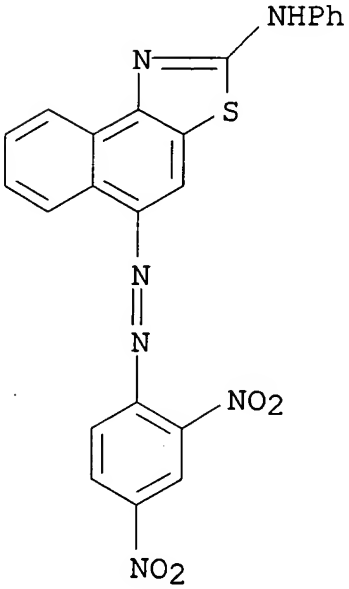
RN 112866-12-3 ZCA
CN Naphtho[1,2-d]thiazole, 5-(2-benzothiazolylazo)-2-morpholino- (6CI) (CA INDEX NAME)



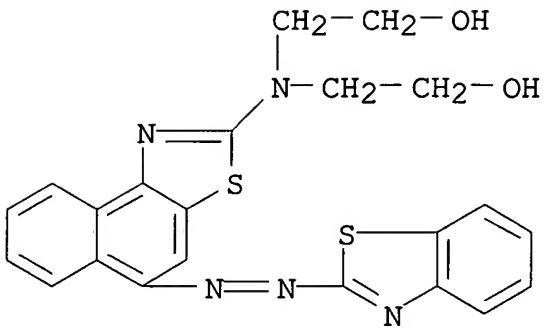
RN 113037-27-7 ZCA
CN Naphtho[1,2-d]thiazole, 5-(2,4-dinitrophenylazo)-2-morpholino- (6CI) (CA INDEX NAME)



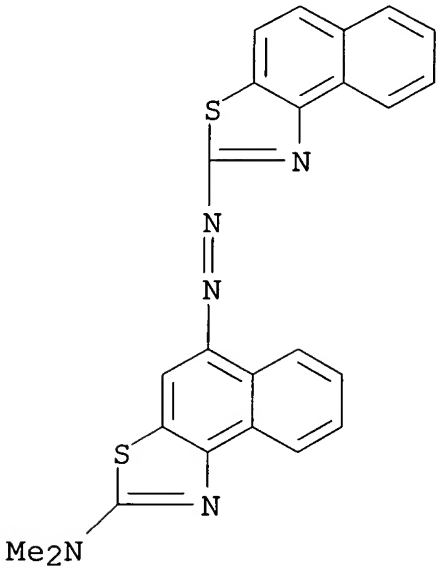
RN 114947-16-9 ZCA
CN Naphtho[1,2-d]thiazole, 2-anilino-5-(2,4-dinitrophenylazo)- (6CI) (CA INDEX NAME)



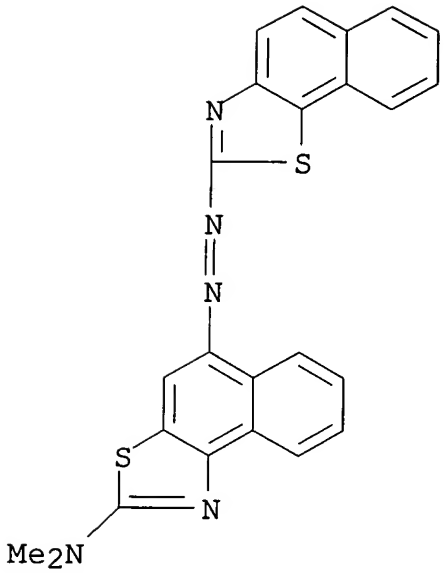
RN 115003-52-6 ZCA
CN Ethanol, 2,2'-[5-(2-benzothiazolylazo)naphtho[1,2-d]thiazol-2-ylimino]di- (6CI) (CA INDEX NAME)



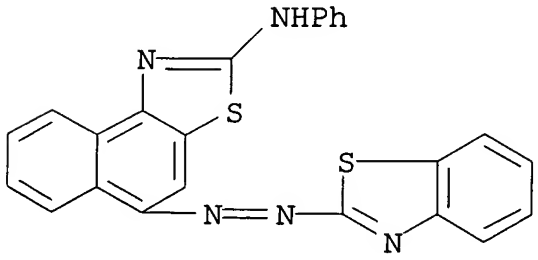
RN 115985-21-2 ZCA
CN Naphtho[1,2-d]thiazole, 2'-dimethylamino-2,5'-azobis- (6CI) (CA INDEX NAME)



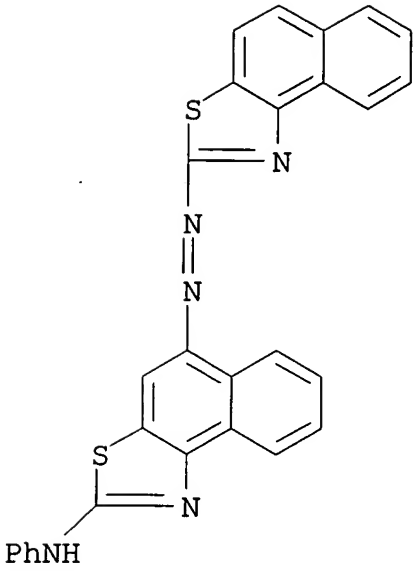
RN 115985-22-3 ZCA
CN Naphtho[1,2-d]thiazole, 2-dimethylamino-5-naphtho[2,1-d]thiazol-2-ylazo- (6CI) (CA INDEX NAME)



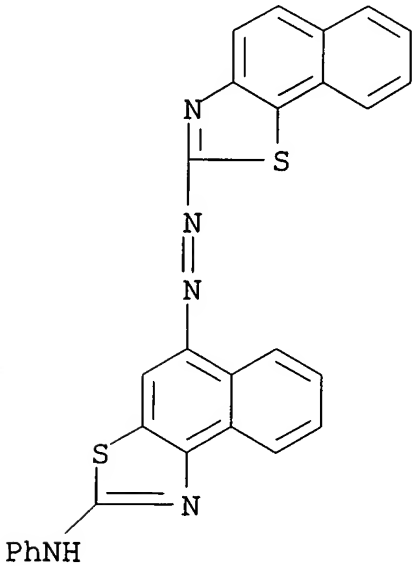
RN 120233-62-7 ZCA
CN Naphtho[1,2-d]thiazole, 2-anilino-5-(2-benzothiazolylazo)- (6CI) (CA INDEX NAME)



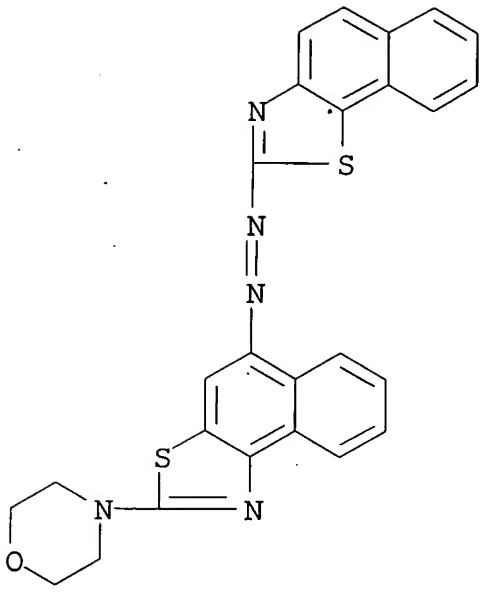
RN 124121-81-9 ZCA
CN Naphtho[1,2-d]thiazole, 2'-anilino-2,5'-azobis- (6CI) (CA INDEX NAME)



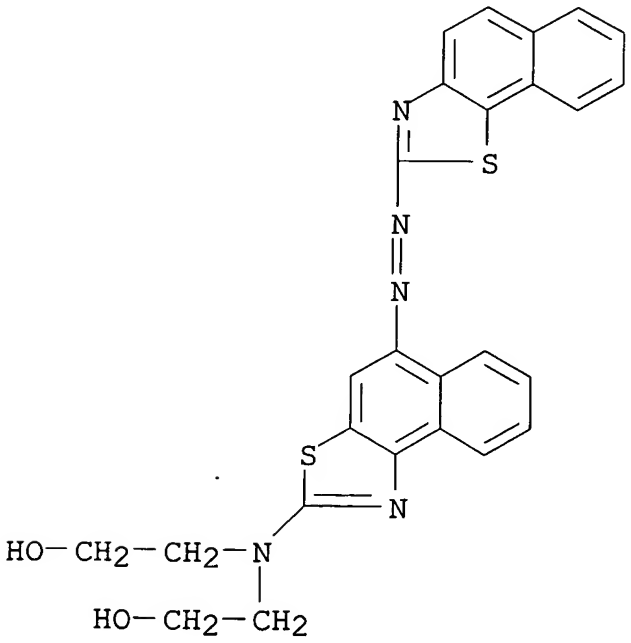
RN 124121-82-0 ZCA
CN Naphtho[1,2-d]thiazole, 2-anilino-5-naphtho[2,1-d]thiazol-2-ylazo- (6CI) (CA INDEX NAME)



RN 124143-10-8 ZCA
CN Naphtho[1,2-d]thiazole, 2-morpholino-5-naphtho[2,1-d]thiazol-2-ylazo- (6CI) (CA INDEX NAME)

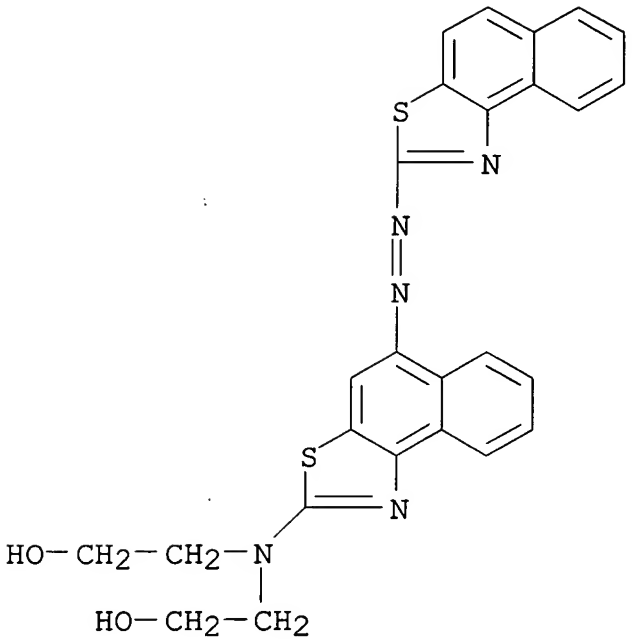


RN 124180-38-7 ZCA
CN Ethanol, 2,2'-(5-naphtho[2,1-d]thiazol-2-ylazonaphtho[1,2-d]thiazol-2-ylimino)di- (6CI) (CA INDEX NAME)

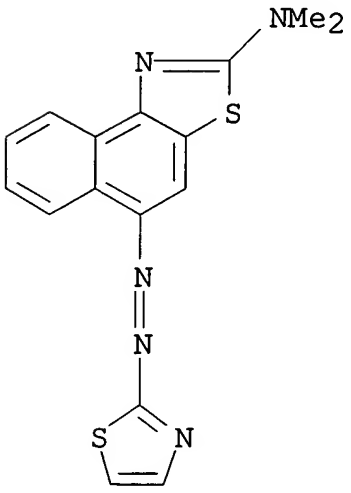


RN 124180-39-8 ZCA
CN Ethanol, 2,2'-(5-naphtho[1,2-d]thiazol-2-ylazonaphtho[1,2-d]thiazol-

2-ylimino)di- (6CI) (CA INDEX NAME)



RN 130862-27-0 ZCA
CN Naphtho[1,2-d]thiazole, 2-dimethylamino-5-(2-thiazolylazo)- (6CI) (CA INDEX NAME)



IT **21431-46-9**, Naphtho[1,2-d]thiazole, 5-(2-benzothiazolylazo)-2-dimethylamino- **21431-48-1**, Naphtho[1,2-d]thiazole, 2'-morpholino-2,5'-azobis- **21431-50-5**, Naphtho[1,2-d]thiazole, 2-anilino-5-(2-thiazolylazo)-

109513-70-4, Ethanol, 2,2'-[5-(2-thiazolylazo)naphtho[1,2-d]thiazol-2-ylimino]di- **109723-22-0**, Naphtho[1,2-d]thiazole, 2-morpholino-5-(2-thiazolylazo)- **109818-13-5**, Naphtho[1,2-d]thiazole, 2-dimethylamino-5-(p-nitrophenylazo)- **112223-60-6**, Naphtho[1,2-d]thiazole, 2-morpholino-5-(p-nitrophenylazo)- **112866-12-3**, Naphtho[1,2-d]thiazole, 5-(2-benzothiazolylazo)-2-morpholino- **113037-27-7**, Naphtho[1,2-d]thiazole, 5-(2,4-dinitrophenylazo)-2-morpholino- **114947-16-9**, Naphtho[1,2-d]thiazole, 2-anilino-5-(2,4-dinitrophenylazo)- **115003-52-6**, Ethanol, 2,2'-[5-(2-benzothiazolylazo)naphtho[1,2-d]thiazol-2-ylimino]di- **115985-21-2**, Naphtho[1,2-d]thiazole, 2'-dimethylamino-2,5'-azobis- **115985-22-3**, Naphtho[1,2-d]thiazole, 2-dimethylamino-5-naphtho[2,1-d]thiazol-2-ylazo- **120233-62-7**, Naphtho[1,2-d]thiazole, 2-anilino-5-(2-benzothiazolylazo)- **124121-81-9**, Naphtho[1,2-d]thiazole, 2'-anilino-2,5'-azobis- **124121-82-0**, Naphtho[1,2-d]thiazole, 2-anilino-5-naphtho[2,1-d]thiazol-2-ylazo- **124143-10-8**, Naphtho[1,2-d]thiazole, 2-morpholino-5-naphtho[2,1-d]thiazol-2-ylazo- **124180-38-7**, Ethanol, 2,2'-(5-naphtho[2,1-d]thiazol-2-ylazonaphtho[1,2-d]thiazol-2-yl]imino)di- **124180-39-8**, Ethanol, 2,2'-(5-naphtho[1,2-d]thiazol-2-ylazonaphtho[1,2-d]thiazol-2-ylimino)di- **130862-27-0**, Naphtho[1,2-d]thiazole, 2-dimethylamino-5-(2-thiazolylazo)-
(prepn. of)

L9 ANSWER 18 OF 21 ZCA COPYRIGHT 2005 ACS on STN
50:4686 Original Reference No. 50:962d-g Diazo coupling of 2-aminonaphtho[1,2]thiazole. Passerini, Riccardo; Pentimalli, Luciano (Univ. Bologna). Bollettino Scientifico della Facolta di Chimica Industriale di Bologna, 12, 106-9 (Unavailable) 1954. CODEN: BSFCAY. ISSN: 0366-3205.

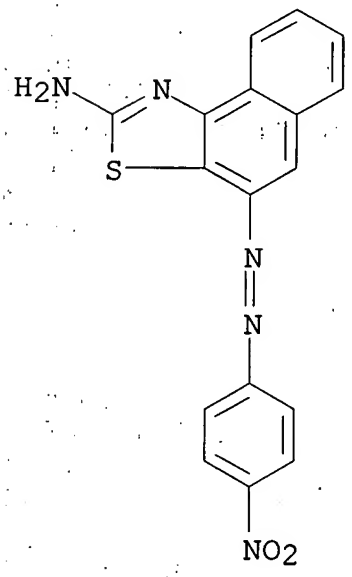
AB 2-Aminonaphtho[1,2]thiazole (I) is best diazotized at -5 to 0.degree.. When I is diazotized at 5-10.degree. the product is a mixt. of I and 2-amino-5-(2-naphtho[1,2]thiazolyl)naphtho[1,2]thiazole (II), which on extn. with boiling dil. HCl yields II, m. 294.degree.. PhNH2 (0.95 g.) diazotized, the soln. neutralized with carbonate and NaOAc, and coupled with 2 g. I in 30 cc. AcOH yielded XN:NR (X = 2-amino-5-naphtho[1,2]thiazolyl) III (R = Ph), m. 330.degree.. p-BrC6H4NH2 (1.7 g.) diazotized, the soln. neutralized, and coupled with 2 g. I yielded III (R = p-BrC6H4), m. 256.degree.. Similarly, 1.4 g. p-O2NC6H4NH2 yielded III (R = p-O2NC6H4), m. 299-300.degree.. 2,4-(O2N)2C6H3NH2 (18 g.) diazotized with metabisulfite and fuming HNO3 (Witt, C.A. 3, 2942) the soln. neutralized with carbonate and NaOAc, and treated with 2 g. I in AcOH yielded III (R = 2,4-(O2N)2C6H3), m. 301.degree.. 4,1-O2NC10H6NH2 (5 g.) in 300 cc. AcOH treated with 11 g. KSCN in 30 cc. AcOH, the soln. cooled, 2 g. Br in 30 cc. AcOH added during 15

min. (the temp. kept at 5-10.degree.), the mixt. stirred 1 hr., poured into water, and neutralized with NH4OH yielded 2-amino-5-nitronaphtho[1,2]thiazole (IV), m. 304.degree.. IV (5 g.) in 20 cc. HCl treated during 1 hr. with 8 g. granulated Sn, the mixt. refluxed 2 hrs., cooled, filtered, and treated with KOH yielded 2,5-diaminonaphtho[1,2]thiazole (V), m. 305-6.degree.; diacetate, m. above 340.degree.. Similar reduction of III (R = p-O2NC6H4) yielded V, m. 306.degree..

IT **670228-28-1**, Naphtho[1,2-d]thiazole, 2-amino-5-(p-nitrophenylazo)-
(prepn. of)

RN 670228-28-1 ZCA

CN Naphtho[1,2-d]thiazol-2-amine, 4-[(4-nitrophenyl)azo]- (9CI) (CA INDEX NAME)



IT **670228-28-1**, Naphtho[1,2-d]thiazole, 2-amino-5-(p-nitrophenylazo)-
(prepn. of)

L9 ANSWER 19 OF 21 ZCA COPYRIGHT 2005 ACS on STN

50:4685 Original Reference No. 50:962d-g Diazo coupling of 2-aminonaphtho[1,2]thiazole. Passerini, Riccardo; Pentimalli, Luciano (Univ. Bologna). Gazzetta Chimica Italiana, 85, 744-9 (Unavailable) 1955. CODEN: GCITA9. ISSN: 0016-5603.

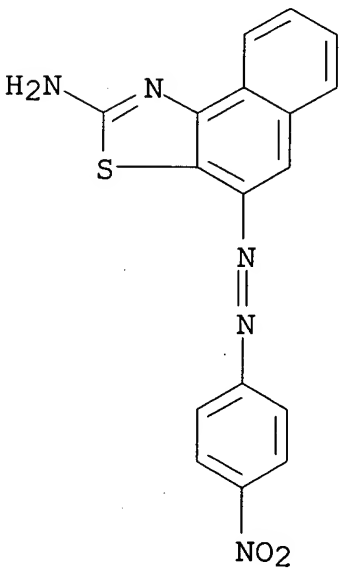
AB 2-Aminonaphtho[1,2]thiazole (I) is best diazotized at -5 to 0.degree.. When I is diazotized at 5-10.degree. the product is a mixt. of I and 2-amino-5-(2-naphtho[1,2]thiazolyl)naphtho[1,2]thiazole (II), which on extn. with boiling dil. HCl yields II, m. 294.degree.. PhNH2 (0.95 g.) diazotized, the soln. neutralized with

carbonate and NaOAc, and coupled with 2 g. I in 30 cc. AcOH yielded XN:NR (X = 2-amino-5-naphtho[1,2]thiazolyl) III (R = Ph), m. 330.degree.. p-BrC6H4NH2 (1.7 g.) diazotized, the soln. neutralized, and coupled with 2 g. I yielded III (R = p-BrC6H4), m. 256.degree.. Similarly, 1.4 g. p-O2NC6H4NH2 yielded III (R = p-O2NC6H4), m. 299-300.degree.. 2,4-(O2N)2C6H3NH2 (18 g.) diazotized with metabisulfite and fuming HNO3 (Witt, C.A. 3, 2942) the soln. neutralized with carbonate and NaOAc, and treated with 2 g. I in AcOH yielded III (R = 2,4-(O2N)2C6H3), m. 301.degree.. 4,1-O2NC10H6NH2 (5 g.) in 300 cc. AcOH treated with 11 g. KSCN in 30 cc. AcOH, the soln. cooled, 2 g. Br in 30 cc. AcOH added during 15 min. (the temp. kept at 5-10.degree.), the mixt. stirred 1 hr., poured into water, and neutralized with NH4OH yielded 2-amino-5-nitronaphtho[1,2]thiazole (IV), m. 304.degree.. IV (5 g.) in 20 cc. HCl treated during 1 hr. with 8 g. granulated Sn, the mixt. refluxed 2 hrs., cooled, filtered, and treated with KOH yielded 2,5-diaminonaphtho[1,2]thiazole (V), m. 305-6.degree.; diacetate, m. above 340.degree.. Similar reduction of III (R = p-O2NC6H4) yielded V, m. 306.degree..

IT **670228-28-1**, Naphtho[1,2-d]thiazole, 2-amino-5-(p-nitrophenylazo)-
(prepn. of)

RN 670228-28-1 ZCA

CN Naphtho[1,2-d]thiazol-2-amine, 4-[(4-nitrophenyl)azo]- (9CI) (CA INDEX NAME)



IT **670228-28-1**, Naphtho[1,2-d]thiazole, 2-amino-5-(p-nitrophenylazo)-
(prepn. of)

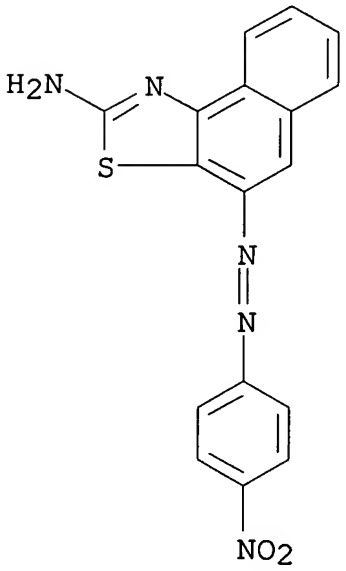
L9 ANSWER 20 OF 21 ZCA COPYRIGHT 2005 ACS on STN
50:1465 Original Reference No. 50:305f-h Diazo coupling with 2-aminonaphthoxazole. Passerini, R.; Pentimalli, L. (Univ. Bologna, Italy). Bol. sci. fac. chim. ind. (Bologna), 12, 165 (Unavailable) 1954.

AB The absorption spectra of 5-(p-nitrophenylazo)-2-aminonaphth[1.2]oxazole (I) are almost identical with the corresponding 2-aminonaphtho[1.2]thiazole deriv., .lambda.max. 475, log .epsilon. 4.31. I has good coloring affinity for cellulose acetate and nylon. 2-Hydroxy-1-naphthylthiourea, 10 g. obtained from the reaction of 1,2-H2NC10H6OH and KCNS, dissolved in 200 cc. EtOH was heated with 20-25 g. HgO for 28 h., filtered, evapd. to dryness, extd. with 50 cc. 10% NaOH at 70-80.degree. followed by filtration, washing with H2O, drying and extn. with 180 cc. C6H6 gave 2-aminonaphth[1.2]oxazole (II), m. 199.degree.. A soln. of p-O2NC6H4N2Cl buffered with AcONa was added to 1.8 g. II in 30 cc. AcOH and stirred for 30 min. and the soln. was allowed to stand 12 h., poured into H2O, filtered and treated with boiling EtOH to give I, m. 304.degree. (decompn.) (from C5H5N).

IT **670228-28-1**, Naphtho[1,2-d]thiazole, 2-amino-5-(p-nitrophenylazo)-
(spectrum of)

RN 670228-28-1 ZCA

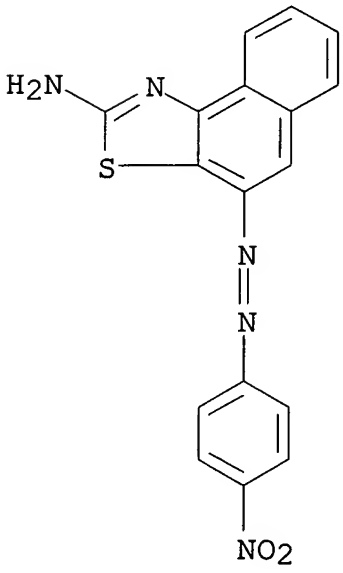
CN Naphtho[1,2-d]thiazol-2-amine, 4-[(4-nitrophenyl)azo]- (9CI) (CA INDEX NAME)



IT **670228-28-1**, Naphtho[1,2-d]thiazole, 2-amino-5-(p-nitrophenylazo)-

(spectrum of)

L9 ANSWER 21 OF 21 ZCA COPYRIGHT 2005 ACS on STN
49:41176 Original Reference No. 49:7855d-g Azo derivatives of 2-amino-.beta.-naphthothiazole. Passerini, R.; Pentimalli, L. (Univ. Bologna, Italy). Bollettino Scientifico della Facolta di Chimica Industriale di Bologna, 12, 110-13 (Unavailable) 1954. CODEN: BSFCAY. ISSN: 0366-3205.
GI For diagram(s), see printed CA Issue.
AB Azo dyes (I) were prepd. by using 2-amino-.beta.-naphthothiazole as coupler. Their fiber affinity was studied. I were prepd. where Ar was 2-thiazolyl (m. above 330.degree. from C5H6N), phenyl, p-nitrophenyl, 2,4-dinitrophenyl, p-bromophenyl, 2-benzothiazolyl (decomp. 285.degree.), 4-methyl-2-benzothiazolyl (decomp. 310.degree.), 6-methoxy-2-benzothiazolyl (decomp. 296.degree.), and 6-bromo-2-benzothiazolyl (decomp. 300.degree.). Affinity and fastness properties of I for nylon were greater than for acetate rayon. Introduction of a second thiazole nucleus did not essentially vary any dye properties. A table is given of fastness to light, sweat, and washing of all azo dyes prepd.
IT **670228-28-1**, Naphtho[1,2-d]thiazole, 2-amino-5-(p-nitrophenylazo)-
(prepn. of)
RN 670228-28-1 ZCA
CN Naphtho[1,2-d]thiazol-2-amine, 4-[(4-nitrophenyl)azo]- (9CI) (CA INDEX NAME)



IT **670228-28-1**, Naphtho[1,2-d]thiazole, 2-amino-5-(p-nitrophenylazo)-